

Transactions *of* The Chartered Surveyors' Institution

SESSION 1937-1938.

AT THE ORDINARY GENERAL MEETING

*Held at the Chartered Surveyors' Institution on Wednesday,
9th May, 1938.*

Mr. ROBERT COBB (President) in the Chair.

NEW MEMBERS.

The following new members were received by the
PRESIDENT prior to the meeting and signed the Register:—

Professional Associates :

BURROWS, GEORGE STOKES
HARDAKER, BASIL
MASON, ALBERT DOUGLAS

SIMMONDS, MAURICE ALAN
CHARLES
WALL, FRANCIS WILLIAM
WESTWOOD, PETER JAMES

A DISCUSSION took place on Mr. J. FRANCIS SMITH'S paper entitled

THE PREVENTION OF VIBRATION IN BUILDINGS.

Mr. GEORGE A. LANSDOWN (Member of Council), in proposing a vote of thanks to Mr. Francis Smith for his interesting and learned paper, said that the author's statement that sound insulation and acoustics were closely allied to his subject reminded him of a remark made by the late Lord Kelvin to the effect that acoustics was one of the great mysteries in the world which no one would ever solve. On reading the paper more thoroughly he had come to the conclusion that vibration was not quite so mysterious as acoustics, and that vibration was further explained by the report of the Building Research Station referred to by Mr. Smith. That report stated: "The investigations now show that "the effect on the structure of a building is small except when "conditions are so aggravated as to be unpleasant to the occupant, and even these conditions are not likely to be really "serious." He himself did not agree with that last paragraph. Mr. Francis Smith also stated that it was human sensibility which was affected long before the structure.

The great point for architects and surveyors was to see that machinery was so isolated that there was no possibility of it becoming a source of nuisance.

There was no doubt that there was an immense amount of vibration as the result of traffic and bad road construction in London and in most of the big cities. He himself had seen the disastrous effects of vibration on buildings at Hammersmith, in the Caledonian Road and at Wimbledon. Buildings along the main thoroughfare had almost collapsed as the result of it. When the trams had been running in Wimbledon they had so damaged one house belonging to a client of his that the tramway company had agreed to buy it at the price it had cost rather than pay the compensation claim for repairing it.

He had also felt vibration, as he happened to live near Addison Road railway station, and every time a train passed he could feel the vibration of it in his bed. He could actually tell whether the train as it was passing was a passenger train, a light goods train or a heavy goods train. There was no doubt that hundreds of houses did vibrate with the passing traffic. Luckily in London, houses were built in terraces, and one house kept another one

up, whereas if they were isolated they would be very liable to fall down.

Mr. Francis Smith had given a number of remedies to prevent vibration, and mentioned the Shell House in Berlin. It was very enterprising of Mr. Francis Smith to have gone to Germany to see that building in order to tell the members of the Chartered Surveyors' Institution about it, and they were very grateful to him for having done so.

The architect of Broadcasting House (Colonel Val Myer) had very kindly given him the following notes on precautions taken to prevent vibration affecting that building. They were as follows:—

“ The Studio Tower was blanketed from external sounds by offices and had separate foundations ; also it was constructed, for the most part, of dense blue bricks, a minimum of steelwork being employed, and it had no structural continuity with the rest of the building.

The ventilating ducts had absorbent baffles and canvas sleeves.

The Studio division walls consist of double aerocrete, with Cabot's quilt between.

The heating of the Studio Tower was incorporated with the ventilation to avoid transmission of sound *via* pipes, &c.”

He understood that these precautions had proved very satisfactory. He was sure that the Institution ought to be grateful to Mr. Francis Smith for the trouble he had taken in preparing the paper and for the lantern slides he had shown, and he wished to propose a hearty vote of thanks to Mr. Smith.

Mr. OWEN CAMPBELL-JONES (Fellow), in seconding the vote of thanks, paid tribute to the skilful and clear way in which the author had placed so technical a subject before the meeting. He, in common with other surveyors when called upon to advise upon the installation of machinery into buildings, had often to take the expert advice of the consulting engineer, and he felt sure the next time he was confronted with engineers' diagrams he would, thanks to Mr. Smith, know a lot more about them. He drew attention to two streets—Lombard Street and George Street in the City—which had been successfully paved with rubber blocks with a view to lessening vibration and noise.

Mr. P. J. WALDRAM (Chartered Surveyor) said he hesitated very much to introduce a different note to that which was predominant in the two speeches just made, but he had commenced to read the paper with a very keen anticipation of receiving from it some help on a practical problem in which, together with most

surveyors, he had been engaged for many years, and as he had proceeded, that keen anticipation had been replaced by a feeling of disappointment. The author drew attention to the fact that the National Physical Laboratory, although it had devised instruments whereby the actual transmissibility of material under live loads could be tested, had given no result in published official literature. He also stated that whilst there was no English literature on the subject, engineers had been engaged upon the practical solution of the vibration problem for many years and that there was a tremendous amount of public information upon the theoretical aspects of the work. Where was it to be found? If a glossary of such information had been given, the paper would have been very greatly improved. Possibly that could be added later.

He suggested that the reason why the N.P.L., the Department of Scientific and Industrial Research and the Building Research Station had not yet published much information on the subject was because not enough was as yet known about it. It was far better that one should be content to continue to use common-sense in the matter rather than give too much value to data which had been published possibly too quickly.

They were asked to accept as the basis of measurement the German experiments. He drew attention to the fact that those experiments were on ten persons only, varying in their ages by three years. He asked whether it were possible to draw much information of value from a series of experiments of such a very limited nature as that. Possibly he might be prejudiced, but he happened to deal with one or two branches of research in which he had to seek for information in the literature of foreign countries, and he had noticed over a series of years that Continental research very often took a very small part of a subject, devoted to it a great deal of most praiseworthy effort and hard work and produced very voluminous results, the value of which was almost invariably spoiled by too short-sighted a view having been taken of the problem as a whole. In this country we were not so ready to rush into print, and the Government departments ought not to be reproved for having failed to publish more information, because the subject of vibration was not one that could be dealt with by any short series of tests. It was a very large subject indeed. He knew that at Teddington valuable work had been done, but it had not been published yet because it was not ripe to do so. It should not be taken as certain that nothing had been published in this country because they knew nothing about it. Perhaps they knew enough to be wisely cautious. Suggesting, as he did, that it was a practical subject which, in the absence of greater knowledge, had to be dealt with on the lines of common-sense, he would venture to deprecate the use of any but obvious terms. Why

should the term "Hertz" be used instead of cycles per second? On page 225 he saw in Fig. 1 that the curve of velocity was plotted. There was nothing in the paper as to why it was there. Perhaps the author would say.

There were also certain statements in the paper which he ventured to question. One was the suggestion that when vibration was caused by the impact of a press, guillotine or power hammer it excited the subsoil to vibrate at its natural frequency. It might tend to do so, but did it ever succeed? The question of interference and mass must come into account. In that connection the reference to terrace houses which had just been made was timely. Terrace houses had a very large mass, and mass naturally damped down vibration; therefore, when one was demolishing a terrace house, no precautions should be omitted to prevent collapse. There had recently been examples in London in the case of old terrace houses exposed to modern traffic. It was not a matter merely of two houses supporting each other. Where there was a row of terrace houses, especially in the neighbourhood of tramways, if some houses were removed others might fall, not from lack of support but from lack of mass.

A point which the paper did not emphasise was the great difference in vibrations. There were vibrations from rotary machines and with unbalanced reciprocating moving parts, but there was the very much more serious kind of vibration which gave a good deal of trouble from machines which had a percussive action, such as drop forgings, power presses, punches, guillotines and the like—to say nothing of pile drivers and pneumatic drills. A large number of ordinary mechanical operations were carried out with percussive machines, the effects of which were often most serious.

He noticed with gratitude that the author drew attention to the very important point that it was not always the immediate ground which was affected. In the neighbourhood of the Thames one often found underneath a shallow bed of gravel soft riverine drift, and although an old house might have stood safely for many years, even centuries, on a bed of, say, 6 inches of gravel near the river, any form of stamping machinery was liable to set the undersoil into vibration, crack the gravel and bring the house down.

The author suggested that a survey should be made of a site before precautions were taken with regard to vibration. It would be interesting to know how those surveys should be made and what they should be designed to show.

Finally, the author suggested that machines mounted in old buildings on wooden floors were a constant source of trouble. Of course they were if the floors were too slender for the machinery,

but he would suggest that the old-fashioned form building, with substantial wooden floors and brickwork in mortar, was far less liable to destructive vibrations than the modern form of steel-work and rigid reinforced concrete. In Birmingham a good deal of minting machinery, involving the worst kind of percussive vibration, was installed on substantial old wooden upper floors with no resultant trouble at all.

He had not noticed in the paper any reference to the use of rubber as an isolating material for machinery. That was a material which had been used with marked success.

There was also nothing in the paper about lead and asbestos packings.

In spite of his criticism of the paper, he ventured to thank the author for the opportunity he had given the members for a consideration of a subject which did require the attention of all surveyors to a very great extent.

Mr. ROBERT B. GREY (Visitor) said he could not discuss the paper to any great extent because he agreed with most of it.

The author had mentioned the question of perceptibility of vibration. Personally he had taken some thousands of records in different houses where complaints had been raised on account of vibration, and he had managed to establish a border line of perceptibility from a Cambridge vibrograph instrument. That border line was about $\cdot 01$ mm. with a frequency of about 10 per second. When it was above that, there was no doubt that the vibration could be felt, but below that very few people would feel it. That border line, however, could not be established as a datum for a nuisance in a court of law; a judge generally would not listen to it, relying entirely upon the evidence of the effects upon the witnesses.

An interesting point was the theory of resonance in persons. Some years ago he had had a case in Kensington where a lady had a flat on the third or fourth floor above a butcher's shop, in which a compressor plant was running. She complained about the vibration and noise from the plant, and certain work was carried out on the compressor to eliminate the nuisance. Despite this she still complained, although he himself and six other people could not hear or feel the noise at all. His theory was that her system was tuned in to that particular frequency and responded to it.

Another point was in connection with the measurement of vibration in tall buildings: In houses alongside property containing vertical Diesel engines he had always found that in the upper floors the vibration was horizontal, but on the ground floor it was vertical.

With regard to forming air gaps, his experience had been that, so far as a machine or vertical Diesel engine foundation was con-

cerned, the air gap had little value ; it only relieved the vibration immediately alongside the foundation, but beyond an angle about 60° from the base the vibration was unchanged. It might reduce the vibration set up by a horizontal engine, as the movement was mainly horizontal and the subsoil was then in shear.

Most of his work had been in connection with machinery, and for efficient isolation he preferred springs. These could be designed to meet with practically any condition or frequency, whereas elastic materials such as cork, rubber, felt, &c., all had their limitations.

In conclusion, referring to the life of elastic materials, and taking cork as an example, that would last quite satisfactorily for a number of years and retain its resilience under limited loads, say, up to 15 lbs. per 89 ins., but under heavy loads it would gradually collapse. Cork installed under concrete foundations for both Diesel and steam engines in 1912 was still functioning efficiently ; that was loaded to about 10 lbs. per square inch.

The author had dealt with most aspects of the subject, and his remarks and data agreed generally with his own experience. He desired again to congratulate Mr. Francis Smith on his paper on a most interesting subject.

Mr. F. J. SAMUELY (Visitor) agreed with most of what Mr. Francis Smith had said, but he disagreed with the statement that cork or any other material under a foundation would not have the desired effect, because even if one got down to 9 cycles per second, one would still be within the range of dangerous vibration. Very low vibrations of up to 15 and 20 cycles per second were felt ; higher vibrations of from between 20 and 5,000 were heard (noise), and noise proved to be far more uncomfortable than vibrations.

According to the graph in Fig. 3 the danger zone for a vibration of 50 Hertz or cycles per second was about ten times as high as for a vibration of 10 Hertz, so that if it was possible to get the vibrations down to the lower regions of cycles it was much easier to make them not dangerous. For that reason he personally was in favour of having cork under hard pressure. He quoted an example where on the average a pressure of 110 lbs. per square inch was put on cork. This had been achieved by means of a double foundation—one block of foundation which actually rested on the ground, and a much smaller block which gave a much heavier pressure between the blocks, and there the cork had been inserted. Actual cracks had been avoided in that instance. No scientific measurement had been taken to which degree vibration actually had been avoided by inserting that natural cork under the foundations, but the owners of the buildings were

extremely satisfied and had no complaints to make, in spite of the building being near the L.M.S. station at Camden Town where heavy lorries were going in and out the whole day.

Springs had been mentioned in connection with machines. It was possible to construct a building so that it acted as a spring—to a certain extent at least. In that way vibrations were damped. That referred mainly to horizontal vibrations. Owing to the fact that every load worked vertically, it was practically impossible to have the vertical end damped by springs, but the horizontal end could always be damped. In the instance to which he had referred it had been done by not having any wall in the building and by keeping all columns to as small a size as possible, which made every column elastic horizontally so that it was not able to transmit any vibration. The actual retaining wall which was necessary round the building had been isolated in a similar way to that shown in the illustration of Shell House, so that there was no possibility of the horizontal vibration directly entering the building. It could only enter through the foundation and columns, which again were elastically insulated.

He mentioned that point about cork because he thought it was necessary to insulate building foundations in principle. The more monolithic a building was, the more liable it was to be affected by vibration if it was not insulated. After proper insulation had taken place, the more monolithic it was the more it would withstand the vibration.

The fact could not be overlooked that most big buildings were now constructed in concrete and steel, and it would become a matter of importance that they should be properly insulated.

In a case where a garage had been installed on the basement of a building and a certain amount of noise was therefore unavoidable, an arrangement of pure felt under the foundation already had helped considerably to minimise the noise.

Dr. J. E. R. CONSTABLE (Visitor) said the author had given a very balanced account of the subject; he had stated where things were wrong, what he knew and what he did not know, and no man could do more than that. He supposed some members were disappointed that Mr. Francis Smith had not told them of a material which, $\frac{1}{8}$ inch in thickness and at a cost of a penny per square yard, would insulate a building completely. Personally he thought they must admire the author's honesty in stating that in his opinion insulating materials in foundations were not much good for the very low frequencies with which he was concerned.

With regard to the effect of vibration on human beings as determined by the German workers, one could criticise the work done in that direction on the ground that they had not done

enough ; they had only measured ten people, and so on ; but on the other hand they had done something in bringing forward facts and figures which were much more valuable than mere opinions.

He desired to split a hair with the author. Mr. Francis Smith was against the use of insulation materials underneath buildings, and would rather that pure inertia was used. One was always taught that if one wanted to insulate against vibration one should choose a mass and an elastic material underneath it, so that the frequency of vibration was less than the frequency which one desired to insulate. The author chose a mass without any spring. Would Mr. Francis Smith agree with him that what he really meant was to choose a mass as heavy as one could get it and to rely upon the spring of the earth upon which it was resting? It was much cheaper too!

Another question was that of trenching. One read in all the books that one way of preventing vibration getting into a building was to trench round the building. There had been figures published showing that trenching was valuable. Personally he had suspected those figures because, after one had gone down a few feet, there was still left approximately 8,000 miles of earth below, which would still transmit vibration. He had seen it stated in one or two German papers that the occasions upon which trenching had been valuable were those in which a heavily conducting layer was cut. Then one did get some benefit from it, but, generally speaking, it was not a specific cure. He would like to know the author's opinion upon that.

His own work at the N.P.L. was really concerned with vibration which one heard rather than felt. At the Laboratory they had got a very fine acoustics laboratory, where they studied the problems of transmission of sound through buildings. They had obtained a number of results which have now been applied in buildings. He would like to mention incidentally that the information obtained in this research was ordinarily placed at the disposal of architects, surveyors and others gratis. They were now interested in the transmission of sound through the structure of buildings. One way to stop that would be to erect the buildings with plasticene! The alternative was to put non-conducting layers at intervals. At the Building Research Station they had put up a small house in which each room was a separated insulated box. Whether that would turn out to be of value in practical construction he could not say. The alternative was to try to put some insulating materials in the walls. The N.P.L. was experimenting on those materials. If they proved to be good things to use under the foundations of a building in order to prevent acoustical vibration from getting into the building, was

Mr. Francis Smith then going to say " But these are practical difficulties ; you must not use such materials ! " Had the author objections to the use of insulating material in general, or only against their use for insulating low frequency vibrations ?

With regard to machine insulation, the author was very much in favour of cork. But why not rubber ? Rubber was very good underneath floors for insulating against impact noises, and it was probably better than cork underneath machines. The life of rubber was quite good. Some rubber manufacturers guaranteed a twenty-year life. A good number of measurements had been made on the drift of rubber and cork and other materials under load, and it had been found that cork drifted quite a lot under load, whereas with rubber one could load up to 50 or 60 lbs. to the square inch and still have only a very small drift. It seemed that rubber had a lot of advantages. One must not forget that the automobile industry had put their engines on rubber and not on cork. What was the author's objection to rubber ?

With regard to impacts, the shape of the wave obtained from an impact was very square. One was bound to excite the natural frequency of the elastic support used to insulate an impacting machine. Would it be advisable to mount such machinery on springs alone ? Would it not be a good plan to have some sort of damping arrangement or to use some material which had a heavy internal damping ? He was speaking rather against the books, but in this case he believed the books were wrong. They always said that when insulating a machine one must avoid damping, but it looked from the measurements that had been made recently as if their mathematics was founded upon the wrong premises.

The usual theory assumed that damping arose from a type of fluid friction. In fluid friction the friction increased with the velocity, so that the higher the frequency the greater the damping. Actually measurements suggested that the internal friction of elastic materials was more like solid friction, the forces associated with which did not vary with the velocity. The result was that one could have damping which was sufficient to damp out the resonances with only just a small effect upon the insulation at the other frequencies. He would like to know if the author had any comments to make on that.

Mr. C. H. BEDELLS (Past-President) pointed out that synchronous vibration had not been referred to. He had had on one occasion to investigate the condition of affairs with regard to vibration which was alleged to be caused by the machinery of a skating rink. A change of ownership of the lease of the rink from a company which had not got any solid assets to a person

whose financial stability was beyond question had encouraged the owners of the property on the far side of the back street to threaten actions for the damage which they said they had sustained. When he had first inspected the property he had not quite liked the look of the situation, because when one got into the rooms of the houses opposite the rink while the machinery connected with the rink was going, the windows of the houses rattled, and the occupants complained not only of that but also of cracks in the ceiling which they said had all appeared since the machinery had been in operation.

There were two engines connected with the rink. One was a heavy engine of about 70 to 100 h.p. for the freezing plant, and the other a small donkey engine for the purpose of generating electricity. It was found that when the larger engine only was at work there was practically no vibration, but when the little donkey engine was started all the windows began to rattle—which seemed very strange. The explanation had been found in the fact that there was an exhaust to the small engine which sucked the air through the area which ran along the back of the rink, and it being a quiet street with no traffic, the condition of the air was practically stable, the result being that every time there was suction from the exhaust of the donkey engine synchronous vibration was set up on the far side of the street. The windows rattled in sympathy with the exhaust of the pipe. That had been proved conclusively, because the exhaust of the engine had been removed and taken half-way along the roof of the rink, when the whole of the source of complaint had stopped.

Another similar case was in connection with a theatre where there was a long passage running through the building. Vibration had been set up at one end of the passage, and by synchronous vibration had communicated itself to the far end of that passage. Therefore if any members were faced with a problem of that sort for the first time this experience of his might be helpful.

Mr. R. D. RELF (Professional Associate) as a junior member congratulated the author for stimulating the members' interest in the subject of vibration. He mentioned two observations which he had made a number of years ago in regard to vibration. In a certain part of Gloucestershire there was a story prevalent that the Court Farmhouse was connected with the "Grange" by means of a subterranean tunnel. He had never found that tunnel and neither had anybody else; it was merely a legend. The Court Farmhouse was situated about a mile from the railway line, and the "Grange" was situated close to the railway line. When trains came along the line a phenomenal vibration occurred in the oldest part of the farmhouse. The story went that the

vibration went along the tunnel. He made a few observations, and found that, curiously enough, it was not when a train passed the "Grange" that the vibration occurred in the farmhouse, but when it went across a quarter of a mile further up the line, and he had discovered that at that point there was a stratum of rocks. He also found that the particular farmhouse was built on a very hard stratum of rock which appeared to run in the same direction. It would seem to be that the length of rock connected as a lever. Would the author say whether that was possible?

A second instance was connected with Ireland. In connection with the Irish grid scheme he was stationed in Cookstown, Co. Tyrone, and, like most Irish towns, it was built on a bog. The electricity supply was generated (temporarily) by three gas engines. During the daytime vibration from one engine was just perceptible about a quarter of a mile away. At night-time, when there was a heavier load, a second engine of exactly the same construction and running at approximately the same speed was employed. The vibration was then increased to an extraordinary amount. It seemed to him that there was a possibility that when there were two engines running side by side, probably a slight difference in their velocity set up a harmonic which was similar to sound and which generated a very much "louder note" than it would appear possible to give and certainly far in excess of the proportion of 2:1. He put that point forward for Mr. Francis Smith's consideration.

The PRESIDENT then put the vote of thanks to Mr. Francis Smith, not only for his paper, but for having taken the trouble to visit Berlin in connection with it. Mr. Francis Smith was the only author of any paper read before the Institution to go so far for that purpose. He also thanked Mr. Grey for his remarks and for the loan of his slides.

The vote of thanks was carried by acclamation.

Mr. FRANCIS SMITH said he would reply to all the main points in writing, but he did desire to say that he very much appreciated Mr. Waldram's criticisms. In answer to him, the Meister curves were in use at the Building Research Station, and, with reference to the matters which it was said he had not mentioned, percussion and the use of rubber were dealt with in the paper.

He thought he could clear up a point mentioned by Dr. Constable about the digging of trenches. There was a complete difference of opinion upon that matter. He went into that point when he was in Berlin, and he discovered that there were four

authorities who had carried out tests in the matter of digging ditches, two of which had positive results and two had negative results ; therefore that could be left out of the question for the moment.

The following written reply has been received from Mr. J. FRANCIS SMITH:—

In the course of his remarks Mr. Lansdown mentioned the use of lead-asbestos-steel pads. In my opinion the use of these pads probably checks the transmission of higher frequencies, and particularly audible frequencies, but I can find no evidence that they diminish the effects of the very low frequencies encountered in connection with traffic vibration.

His notes about Broadcasting House appear to me to support my statement that the discontinuity of the structure from its surroundings, and the use of mass and weight, do provide the best method of isolating against incoming vibration.

Mr. Campbell-Jones raised the interesting point of a practical example where improved street conditions had been achieved by the use of rubber blocks, and I feel that this solution to the problem of traffic vibration should always have first consideration when complaints arise in the case of existing buildings.

Mr. Waldram was careful to explain that he, together with most surveyors, had been engaged for many years upon the problems under discussion, and suggested that neither of our principal laboratories had published information upon the subject of the transmissibility of materials because it was too difficult for them to do so.

In spite of these statements, he indicated disappointment that the paper did not provide more help towards solving vibration problems, and I submit that it is not possible to give more than a general account of the subject in a short paper.

I am sorry to note that Mr. Waldram counsels the application of common-sense as a basis for the solution of vibration problems, because, in my opinion, the spheres of common-sense are even more debatable than the spheres of sensibility to vibration.

With regard to German experiments, while I am prepared to support some of Mr. Waldram's generalisations on the conduct of Continental experiments, I cannot accept his ruling in the present instance. German scientists and engineers have achieved much success in solving vibration problems.

The published results of this particular test contain much detailed information which I was unable to give in the few paragraphs of my paper, and the findings will, in my opinion, be

accepted in this country until more reliable data is forthcoming. Even if I had known that they had been used by the Building Research Station, I would not have hesitated to mention the tests in the paper.

I wish to apologise to him and to members for the error in the paper which under-stated the range of ages of the persons submitted to test conditions.

As to the use of the term "Hertz," I fear I am still unrepentant, and I would have discussed the influence of velocity and acceleration in connection with vibration problems had time and space permitted.

May I respectfully point out that, in my general conclusions, I drew attention to the need for using mass and weight to counteract the effects of vibration, and I should be grateful for further particulars of the terrace house, mentioned by Mr. Waldram, which fell down as a result to vibration after an adjacent house in the terrace had been demolished.

I stated that there is no published information in the English language upon the practical solution of vibration problems, and I would like to explain that I meant no one has devoted a book to working out specific examples of solutions of the various problems encountered in either building or machinery isolation.

I consider that vibration surveys of a site would establish that, in many cases, no elaborate precautions need be taken to avoid trouble from incoming traffic vibration. Each case, however, must be treated on its merits, and it would be unwise to lay down specific lines for conducting such surveys.

I am indebted to Mr. Waldram for suggesting the preparation of a glossary of the published information touching upon this subject. I will try to prepare a bibliography, but it will take some time, since I find that my present list runs into some 30 books and 350 papers.

It is only fair to point out to Mr. Waldram that much of the information is of Continental origin.

I purposely avoided mentioning proprietary articles and the names of firms specialising in isolation work.

I am pleased to notice that Mr. Grey is in agreement with the principal points mentioned in the paper, and also that he supports my opinion that materials such as cork should not be submitted to exceedingly heavy loads. I do not think, however, that the cork would be likely to collapse under the strain, but that the general effect would be for the cork to harden to such an extent that its isolation value against low frequencies would be negligible.

It was very kind of Mr. Samuely to come and speak upon the subject. While he partially answered my criticism of the use of cork in foundations he did not dispose of the question of the life of

the material or its behaviour under such loads as 100 lbs. per square inch, and I am still doubtful about the ultimate efficiency of such materials.

In response to Dr. Constable, I agree that as a basis of construction I consider the use of mass as inertia is the best method of isolating large buildings from incoming traffic vibrations.

He stepped outside the scope of my paper when he introduced acoustical vibration, but I do suggest very seriously that even when the physical properties of insulating materials have been established, their incorporation in the structure will involve considerable modification in normal building technique.

I have no objection to the use of rubber. It is, of course, more costly than cork, but I must remind Dr. Constable that it is only in the last few years that the laboratories have given an official blessing to the former material and that, to quote his own words, at the National Physical Laboratory they are "gradually beginning to abandon cork for insulation purposes."

One has to bear in mind the fact that, when using isolation materials in practice, one cannot obtain the very desirable experimental conditions at Teddington and Watford. For example, one cannot in practice provide hydraulic jacks to lift a whole building if the isolation material incorporated in the foundation has to be changed.

With regard to machinery having impact or percussive action, this should, if possible, be isolated by spring mounting. At present the usual practice is to provide a heavy foundation block to give the necessary inertia so that the movement is damped out in about three oscillations after the impact of the blow. Fluid dampers can be incorporated in such a scheme to bring the foundation block to rest in a much shorter space of time, but this means a costly and complicated arrangement.

I am very grateful to Dr. Constable for contributing to the discussion, and would like to dispel the idea that I tried to take the N.P.L.'s name in vain. All the argument on this point seems to me to have arisen from the simple statement that many years after apparatus had been devised to test transmissibility of material under live load we had no published information as to what had been the outcome of experiments.

I was much interested in Mr. C. H. Bedells' remarks concerning synchronous vibration. The instances to which he referred are typical manifestations of this particular form of nuisance, and it is useful to observe that he cured the trouble tackling the problem at its source.

I should like to know whether Mr. Ralph could give me more particulars about the first matter he mentioned, because I happen

to know Gloucestershire fairly well, and it would be interesting to discover whether the vibration is still experienced.

There is no doubt that when vibration is imparted to a strata of rocks it will travel through the rock structure and cause disturbance at points very remote from the original source.

As an instance, I know of one case where a house was affected by blasting operation although half a mile distant from the quarry, whereas houses in the immediate vicinity felt very little of the disturbance.

With regard to the gas engines, I believe the explanation here may be the presence of a disturbing harmonic ; but if the engines were in phase, there would be very considerable increase in the amplitude of vibration.

In conclusion may I thank all those who contributed to this discussion, and say that the interest shown has encouraged me to proceed with the study of what I regard as a very important subject.

ERRATUM.

On p. 227 of Mr. J. Francis Smith's paper on "The Prevention of Vibration in Buildings," lines 2 and 3 of the second paragraph, " 20 to 37 " *should be inserted instead of* " 27 to 30."

THE ANNUAL GENERAL MEETING,

Monday, 30th May, 1938.

The Report of the Scrutineers of the Ballot for the Election of the Council was read to the Meeting.

The Report declared that the following were duly elected a

COUNCIL FOR THE ENSUING YEAR.

Fellows.

SIR WILLIAM BAIRD
SIR CHARLES BRESSEY, C.B.
C. CHART
W. H. CHRISTY CLAY, O.B.E.
H. F. COBB, C.B.E.
COLONEL H. C. COLE, C.B.E.
J. D. DREW
W. H. EVE
W. C. FARNSWORTH
C. H. FOX, O.B.E.
T. P. FRANK
H. FRANKS
G. GARDNER
E. B. GILLET
J. HERBERT HALL
DRYLAND HASLAM
OSWALD HEALING
S. A. KELLY

H. J. KING
CUTHBERT LAKE
H. W. LANGDON
G. A. LANSDOWN
J. A. McAULEY
L. O. MATHEWS
A. W. MERRY
J. C. PINKERTON
H. I. RICHMOND
W. M. ROBERTSON
N. ROOKE
A. L. SCOTT
JOHN SCOTT
H. E. SHERWIN
EDWARD J. SILCOCK
H. A. STEWARD
A. L. THOMAS, M.B.E.
G. L. VIGERS

Professional Associates.

J. A. ARNOLD-FOSTER
S. C. R. DALE

H. B. EVE
H. R. HINGE

Associates.

COLONEL THE RT. HONBLE. SIR GEORGE L. COURTHOPE, BT., M.C., M.P.
SIR HARRY COURTHOPE-MUNROE, K.C.

The Report of the Council on the affairs of the Institution and the Statement of Receipts and Expenditure for the year 1937 were read.

IT WAS RESOLVED—" That the Report of the Council and the Balance Sheet be received and approved, and be printed and circulated with the *Transactions*."

IT WAS RESOLVED—" That the thanks of the Institution are due and be given to the PRESIDENT, VICE-PRESIDENTS, HONORARY SECRETARY, and the other MEMBERS AND ASSOCIATES OF THE COUNCIL, for the able manner in which they have administered the affairs of the Institution."

IT WAS RESOLVED—" That the thanks of the Institution be given to MESSRS. A. S. BENNION and E. J. POULTON for the efficient performance of their duties as Auditors, and that they be requested to continue their services for the coming year ; and to MESSRS. W. S. BARNES, H. S. G. BEDELLS, WILLIAM BELL, R. S. BEVAN, W. T. BISHOP, C. S. BURKETT SMITH, H. G. BUSS, E. R. CANHAM, B. G. COFFIN, F. R. EILOART, J. L. FEAR, J. D. FIELD, A. S. FORD, H. A. GLOVER, A. R. C. HALL, E. W. HUGHES, E. A. MALBY, C. W. E. REMNANT, D. SOMERS, J. C. SPENSLEY, G. W. TOLLETT and E. WYNNE JONES for their services as Scrutineers.

The CHAIRMAN presented the following Prizes won by Candidates in the Preliminary and Professional Examinations, 1938:—

THE " PENFOLD " SILVER MEDAL

for the highest percentage (over 75% of the maximum) in Parts I. and II. of the Intermediate Examination to JOHN HOWARTH ROWLANDSON.

THE " HYMAN MARKS " PRIZE

for the highest percentage of marks in Part I. of the Intermediate Examination to WILFRID BENTHAM WHITE.

THE " SPECIAL " PRIZE OF THE VALUE OF
£10 10s.

to ALBERT WALTER UNWIN for the highest percentage of marks in Part II. of the Intermediate Examination.

THE " PENFOLD " GOLD MEDAL

for the highest marks (over 75% of the maximum) in the Final Examination to HUGH ALLISON.

Mr. ALLISON was also the winner of—

THE " DRIVER " PRIZE,

Being the Interest accruing on a Sum of £500,

awarded to the Candidate who obtains the highest percentage in the Final Examination ;

THE " WAINWRIGHT " PRIZE,

Being the Interest accruing on a Sum of £500,

awarded to the Candidate in the Final Examination who is found to have obtained the highest percentage of marks in the Intermediate and Final Examinations combined ;

THE " JOHN GILCHRIST " PRIZE,

Being the Interest accruing on a Sum of £100,

awarded to the Candidate who obtained the highest percentage of marks in the Scottish Final Examination ;

and of—

THE “ CRAWTER ” PRIZE,

Being the Interest accruing on a Sum of £200,

for the best work in “ Principles of Valuation.” He obtained 89% of the maximum marks.

“ THE INSTITUTION ” PRIZE OF THE VALUE
OF £15 15s.

awarded to the second Candidate in the Final Examination to JACK KEARSLEY JAQUES.

THE “ GALSWORTHY ” PRIZE,

Being the Interest accruing on a Sum of £500,

awarded to the Candidate in the Final Examination who is found to have obtained the second highest percentage of marks in the Intermediate and Final Examinations combined to DAVID HILLS DRAPER.

THE “ BEADEL ” PRIZE,

Being the Interest accruing on a Sum of £200,

for the best work in the subject of “ Agriculture,” to CHRISTOPHER ARNOLD SELWYN, who obtained 70% of the maximum marks.

THE "MELLERSH" PRIZE,

Being the Interest accruing on a Sum of £100,

for the best work in "Outdoor Forestry, Timber Valuing
"and Measuring," to MYLES DENTON CLARK, who
obtained 75% of the maximum marks.

THE "QUANTITIES" PRIZE OF THE VALUE
OF £5 5s.

to CYRIL HEMINGWAY FARRAR, who obtained 77% of the
maximum marks.

THE "CONSTRUCTIVE AND WORKING
"DRAWINGS" PRIZE OF THE VALUE OF £5 5s.

to REGINALD ERNEST ADAMS, who obtained 92% of the
maximum marks in the subject.

THE "SCOTTISH" PRIZE,

awarded to the Candidate from Scotland who obtained the
highest percentage of marks in Parts I. and II. of the
Intermediate Examination to ROBERT ANDREW MILLIGAN.

THE "JULIAN ROGERS" SCHOLARSHIP,

awarded to the Candidate at the head of the list in the
Preliminary Examination, to ARTHUR WILLIAM HAWARD.

THE SEVENTIETH
ANNUAL REPORT OF THE COUNCIL.

Session 1937-1938.

ANNUAL GENERAL MEETING

Monday, 30th May, 1938.

The Session 1937-1938 will be remembered principally as the period during which the lengthy negotiations for the amalgamations of the Scottish Estate Factors' Society, the Faculty of Surveyors of Scotland, and the Irish Quantity Surveyors' Association with the Institution came to a formal and satisfactory conclusion. H.M. Privy Council ratified the amalgamations with the two Scottish bodies as from the 29th July, 1937, and that with the Irish Quantity Surveyors' Association as from the 19th October, 1937.

By these decisions of H.M. Privy Council, and by the inclusion within the Chartered Surveyors' Institution of the great majority of estate factors in Scotland and all the qualified quantity surveyors in Scotland and Ireland, the profession of surveyor in these two countries, where for many years there have been strong and flourishing branches of the Institution, will be further strengthened and consolidated.

To all new members in Scotland and Ireland brought to the Institution through these amalgamations the Council desire to express a cordial welcome.

It was realised that the position created by the amalgamations in Scotland clearly placed the administration of the Scottish Branch affairs beyond the competence of an honorary staff, and the Council appointed, as from

the 1st January, 1938, Mr. D. M. Mackay as an Assistant Secretary of the Institution for service in Scotland. Mr. Mackay has filled the office of Honorary Secretary of the Scottish Branch with conspicuous success for the past eighteen years, and for the valuable services rendered during his tenure of that office the Council desire to express their warm appreciation.

The Annual Dinner was held at Grosvenor House on the 3rd March, 1938. The popularity of this function was demonstrated by a new record in the attendance, which numbered some 600 members and their friends.

The retiring Members of Council at the end of last session were Messrs. J. F. Bowden, Frank Hunt, c.v.o., J. M. Porter, R. Ingleby Smith, O.B.E. (Fellows), and Mr. W. R. Brackett, B.Sc. (Professional Associate). The sincere thanks of the Institution are due to them for their services rendered during their years of office.

The new Members of Council who took office at the beginning of the year under review were Messrs. J. Denys Drew, T. Peirson Frank, J. A. McAuley, H. I. Richmond, A. Lacy Scott (Fellows), and Mr. A. J. Miller (Professional Associate).

Revision of the By-laws.

The session under review has seen the completion of the task of two years' duration leading up to an extensive revision of the By-laws. Subject to the approval of two General Meetings of members, they will be submitted to H.M. Privy Council for confirmation.

The amendments have been directed towards a simplification of the disciplinary procedure vested in the Council, the reconstitution of the Council itself, the extension of time during which persons may remain in the classes of probationer and student, and the recognition of the Junior Organisation as an integral part of the Institution with certain rights and privileges. The new By-laws also include provisions for accelerating the collection of arrears of subscriptions, and for the first time they

introduce the system of proxy voting at General Meetings of members. Mention should also be made of the extended form of undertaking to be given by candidates seeking admission to the Institution, to the effect that upon ceasing to be connected with the Institution they will not use or permit to be used in conjunction with their names or with the names of any firms or undertakings with which they may at any time be associated, any designation or expression denoting or suggesting membership of or affiliation or connection with the Institution.

In connection with the heavy task of revising the By-laws the Council would like to extend their warm thanks to Sir John Oakley, G.B.E., and his special committee, on which the County Branches and the Junior Organisation as well as the Council were specially represented ; to members of Branch Committees and the Junior Committee for their valuable suggestions, obtained as a result of two comprehensive reviews of the By-laws as at present existing and proposed for revision ; and to individual members who have submitted proposals, all of which have been carefully considered.

Membership.

The comparative tables showing the statistics of membership are given below:—

TABLE A.

	Honorary Members.	Fellows.	Colonial Fellows.	Professional Associates.	Associates.	Probationers.	Students.	Total.
May, 1937 ...	36	2897	122	3928	34	1290	308	8615
„ 1938 ...	39	3260	121	4145	89	1339	299	9292
	+3	+360	-1	+217	+55	+49	-9	+677

TABLE A1.

Holders of Women House Property Managers' Certificates:—

May, 1937	...	...	...	...	45
May, 1938	...	...	...	...	77

TABLE B.

	Members (or "Fellows" after 1881).	Associates.		Pro- bationers.	Students.	Total.
		Professional.	Ordinary.			
May, 1869	162		38		2	202
" 1870	180		59		2	241
" 1880	342		155		10	507
" 1890	1095	310	89		123	1617
" 1900	1883	757	88		336	3064
" 1910	1862	1970	75		365	4272
" 1920	2191	2510	47	36	132	4916
" 1930	2675	3094	35	928	436	7168
" 1931	2720	3198	34	1130	346	7428
" 1932	2748	3350	37	955	533	7623
" 1933	2777	3448	35	1064	715	8039
" 1934	2794	3515	34	1306	511	8160
" 1935	2854	3649	33	1308	412	8256
" 1936	2864	3832	33	1400	317	8446
" 1937	2897	3928	34	1290	308	8457
" 1938	3260	4145	89	1339	299	9132
Honorary Members						39
Colonial Fellows						121
Women House Property Managers						77

1938 Grand Total ... 9369

In 1883 "Associates" were divided into "Ordinary" and "Professional" Associates.

The following Honorary Members were elected during the year:—

Mr. W. M. Price, F.L.A.S.,
 Mr. William Russell,
 The Rt. Hon. Lord Saltoun, M.C.,
 Dr. C. W. Sleight, M.A.,
 Sir Hugh Shaw Stewart, B.T., LL.D.

The death of the following members of long standing must be recorded with regret:—

Mr. C. S. Pain, Bebington (1875); Mr. L. R. Vigers, London (1878); Mr. H. Walker, Blackpool (1882);

Mr. C. P. Whiteley, London (1882) ; Mr. J. Willmot, Birmingham (1882) ; Mr. L. G. Hasluck, Barnet (1883) ; Mr. H. Johnson, London (1883) ; Mr. H. A. Jones, London (1883) ; Mr. A. Michelmores, Totnes (1884) ; Mr. F. Blake, Hayling Island, (1885) ; Mr. T. H. Tomlinson, Loughborough (1888) ; Mr. J. Gunter, Hereford (1889) ; Mr. A. H. Kersey, London (1889) ; Mr. H. F. Homan, Rochester (1889), Mr. A. E. Marvin, Carisbrooke, I.O.W. (1889) ; Mr. B. B. Franklin, Luton (1891) ; Mr. C. Joseland, Kidderminster (1891) ; Mr. G. Kenwick, Trimley St. Mary (1891) ; Mr. G. E. Richards, Wimborn (1891) ; Mr. A. W. Taylor, London (1891) ; Mr. J. M. Clark, Haltwhistle (1892) ; Mr. W. P. Theakston, Huntingdon (1893) ; Mr. J. W. Aris, Richmond (1894) ; Mr. J. A. Thompson, London (1894) ; Mr. C. E. Fox, Halifax (1895) ; Mr. C. B. Punchard, Kendal (1895) ; Mr. J. Welply, Limerick (1895) ; Mr. G. E. Luck, London (1896) ; Mr. J. E. Miller, Sunderland (1896) ; Mr. A. Goulding, London (1897) ; Mr. J. S. Hall, Walberton (1899) ; Mr. A. W. Lofthouse, Middlesbrough (1899) ; Mr. R. T. Grove, London (1900) ; Mr. L. Maggs, Nottingham (1900) ; Mr. B. W. White, London (1900) ; Mr. J. G. Kelly, Sheffield (1901) ; Mr. C. E. Bedford, London (1903) ; Mr. F. S. Henniker, London (1903) ; Mr. H. Burch, Newcastle-on-Tyne (1904) ; Mr. E. E. Smith, Dartford (1904) ; Mr. J. H. Pitt, London (1905) ; Mr. W. H. Champion, Sheffield (1907) ; Mr. H. W. Crozier, Hertford (1907) ; Mr. H. Holdforth, Brighton (1907) ; Mr. C. W. Shaw, Dewsbury (1907), Mr. A. J. Brickwell, New Barnet (1908) ; Mr. H. E. Duke, Dorchester (1908) ; Mr. T. H. Musgrave, Newcastle-on-Tyne (1911) ; Mr. R. F. Percy, Nottingham (1914) ; Mr. S. L. Thacker, Walsall (1914) ; Mr. J. Scott, Newcastle-on-Tyne (1915) ; Mr. D. K. McBeath, Dunoon (1918) ; Mr. E. T. Parr, London (1919) ; Mr. A. Rowse, Birmingham (1922) ; Mr. C. Silk, Birmingham (1922).

Members will join with the Council in deploring the sad deaths of Mr. Roy Deverson and Mr. G. C. Arter, two junior members of the Institution staff, at the early ages

of 25 years and 21 years respectively. Both had been at the Institution for some years and had in that time proved themselves as capable and valued servants.

Obituary notices of these and other members have appeared in the *Journal* during the year.

Professional Practice.

The last two Annual Reports have contained a reference to the progress made in the negotiations being conducted by the Institution and kindred societies with the Law Society, with the object of obtaining reciprocity from the legal profession for By-law 24 (3), which forbids members of the Institution engaging in work recognised as being properly that of a solicitor.

The preliminary conversations have now been concluded, and the points emerging therefrom have been investigated by the Drafting Sub-Committee, who are preparing the draft of a memorandum for publication setting out the considered views of the parties on the various matters which have been the subject of discussion between them.

The Appointments Register.

A number of vacancies have been notified to the Appointments Register, and an analysis of the appointments secured for members through the instrumentality of this service is given below:—

Land Agency	14
Valuation	34
Building	7
Quantities	7

Many of these appointments were of a temporary nature, and since at no time have there been more than 50 members on the Register unemployed, it is becoming more difficult to fill that class of vacancy. The demand for architectural and quantity surveyors' assistants has again exceeded the supply, and in the early months of the period under review there was an insistent demand for rating surveyors' assistants.

In addition to submitting the members' names to prospective employers, over 250 notices of appointments covering all branches of the profession have been circulated to the members on the Register. Enquiries numbering 196 have been dealt with relating to articulated pupils, and the panel of members prepared to take pupils now totals 175.

Introductions of members for professional work still continue to be given to the public. Insurance companies, solicitors, banks, building societies, &c., and 187 recommendations for such work have been made during the year under review.

In accordance with the terms of the Agreements effecting the amalgamations between the Scottish Estate Factors' Society and the Faculty of Surveyors of Scotland with the Institution, an Appointments Register has now been opened in Scotland, under the management of the Assistant Secretary for Scotland (Mr. D. M. Mackay), at 189, St. Vincent Street, Glasgow, C.2. Members may be interested to learn that the names on the Scottish Register are also included on the Register kept at headquarters, so that the widest possible field may be covered.

The Examinations.

Table C shows the total number of entries for the 1938 examinations as compared with previous years, and the number of passes.

TABLE C.

Years.	Preliminary Examinations.			Professional Examinations.		
	Candidates.	Passed.	Percentage.	Candidates.	Passed.	Percentage
1881	13	6	46·15	2	1	50·00
1890	53	44	83·01	96	70	72·91
1900	131	102	77·86	325	193	59·38
1910	130	95	73·08	623	437	70·14
1920	70	55	78·57	487	322	62·12
1930	563	350	62·17	993	595	59·92
1931	580	352	60·69	1,127	688	61·04

TABLE C—(continued).

Year.	Preliminary Examination.		Intermediate Examination.			Final, Direct Fellowship and Special Degree Examinations.	
	Candidates.	Passed.	Candidates.	Passed.		Candidates.	Passed.
1932	519	299	898	Part I. 586	Part II. 219	482	256
1933	453	250	1,169	369	364	506	217
1934	343	134	1,275	469	352	517	297
1935	300	167	1,206	459	333	553	267
1936	316	172	1,252	407	378	569	270
1937	343	177	1,380	348	344	614	273
1938	327	160	1,450	484	252	637	268

Table D shows the results, in analytical form, achieved by candidates in England and Wales.

TABLE D.—*England and Wales.*

	Sub-Division I. Land Agency.			Sub-Division II. Valuation.			Sub-Division III. Building and Quantities.			Sub-Division IV. Mining.			Percentage of Candidates who passed.
	Examined.	Passed.	Referred back in Typical Subject.	Examined.	Passed.	Referred back in Typical Subject.	Examined.	Passed.	Referred back in Typical Subject.	Examined.	Passed.	Referred back in Typical Subject.	
Intermediate Part I.—	Examined, 899; Passed, 428;												47.60
Intermediate Part II.—	15	10	1	125	76	12	161	76	31	1	—	1	53.11
Final	26	14	8	220	59	86	173	95	26	1	1	—	40.24
Direct Fellowship	1	—	1	8	1	3	4	3	—	—	—	—	30.77
Special Degree Holders	5	4	—	2	—	2	5	2	2	—	—	—	50.00

In addition, 230 candidates were re-examined in their Typical Subject. Of these 123 were successful.

There were 126 Scottish candidates, of which 69 entered for Part I., and 28 for Part II. of the Intermediate, 26 for the Final, Direct Fellowship and Special Degree and 3 for Typical Subjects. Of these 34 passed Part I., and 15 Part II. of the Intermediate, 23 the Final, Direct Fellowship and Special Degree, while 11 were referred back in their Typical Subjects.

The Irish candidates numbered 43, of whom 11 passed Part I., and 6 Part II., of the Intermediate, 3 the Final, 1 the Special Degree Holders, and 6 were referred back in their Typical Subjects.

Of the 39 candidates who took the examinations overseas, 11 passed Part I., 4 Part II. of the Intermediate, 3 the Final, and 1 the Special Degree Holders' Examination.

For the Women House Property Managers' Certificate Examination 33 candidates presented themselves, and 19 were successful.

The Special Diploma Examinations.

The examinations for the Special Diplomas in Rating and Town Planning were held in June, 1937.

Seven candidates sat for the Rating Examination and the following were successful: Messrs. J. G. Cook (Harpenden), A. F. Meire (Liverpool), W. S. Cook (London), and S. J. Woodeson (Manchester).

In the Town Planning Examination four candidates sat and the following were successful: Messrs. C. B. Bain (Glasgow), D. W. Ferguson (Chelmsford), and J. L. Wetton (Sidcup).

The Scholarships.

University Scholarships of £100 per annum, tenable at Cambridge for three years from October, 1938, have been awarded to Mr. C. H. M. Wildblood (Kingswood School), Mr. Michael F. Rawlence (Wellington College), and Mr.

J. C. Pugh (Taunton's School, Southampton, and St. Catharine's College, Cambridge). In the case of the last named scholar the award has been made for two years only as he is already at Cambridge and will have completed one year's study by the time the scholarship comes into effect.

A University Scholarship (London) of £50 per annum has been awarded to Mr. R. L. Harding for one year, subject to renewal on the prescribed conditions. This is the first award made under this experimental extension to the scholarship scheme introduced by the Council last session.

The reports received from the Cambridge authorities upon the work of the Institution scholars now at the University continue to be satisfactory.

The Standing and Special Committees.

Eleven meetings of the Council and 116 meetings of the Standing and Special Committees have been held during the year under review.

The following Parliamentary Bills or portions of them were examined by the Parliamentary Committee:—

- The Rating and Valuation (Postponement) Bill ;
- The Rent and Mortgage Interest (Restrictions) Bill ;
- London County Council (General Powers) Bill ;
- The Middlesex County Council (Sewerage) Bill ;
- Leasehold Property (Repairs) Bill.

The recommendations of the Parliamentary Committee for the amendment of Clause 5 of the L.C.C. (General Powers) Bill, together with the recommendation that if the Bill should become law the Metropolitan Paving Act, 1817, should be repealed, except so far as concerned the powers of the Corporation of the City of London thereunder, were transmitted by the Council to the Minister of Health and the promoters of the Bill.

Mention was made in last year's Report of the steps taken by the Mining Committee to protect those surveyors whose livelihood would be affected by the Government's intention to transfer the ownership of mineral properties to the State.

The Secretary for Mines refused to give way to the representations in this matter made to him by the Committee, with the result that the Coal Bill, 1937, was introduced by the Government in November of last year without any provision for the compensation of the mineral surveyor. The attempts made by the Institution in conjunction with the Mineral Owners' Joint Committee to obtain a suitable amendment during the passage of the Bill through the House of Commons proved ineffective, and it has now been decided to pursue the mineral surveyors' case for compensation in the House of Lords.

Throughout the passage of the Bill in the House of Commons the mineral surveyors' case was sponsored by Sir George Courthope, B.T. (Associate Member of Council), and his ready acceptance of the task and the able manner in which he performed it, earned the gratitude of the Council and all mineral surveyors and agents.

The Coal Bill, 1937, as it affected the surveyor's profession was considered in detail by the Mining Committee, who caused a memorandum of observations thereon to be sent to the Secretary for Mines.

On the decision of the Government to postpone the making of the third quinquennial valuation until 1941, the Council represented to the Ministry of Health that rating authorities should be encouraged by circular as soon as possible to proceed with the valuation, even though the lists do not require to be deposited until 1941.

The necessity has been represented to the Law Society for an alteration in the County Court Rules to protect the fees of technical referees appointed by order of the County Court. The recovery of their fees by members appointed as technical referees in these circumstances was discussed in an article appearing in the *Journal* for March, 1938, which strongly advises members before accepting such appointments to obtain, failing prior payment of their fees, an express undertaking jointly and severally from the solicitors to the parties to pay their fees.

The Land Surveying Committee, which as a Standing

Committee of the Council began its work this session, has already made considerable progress in advising how best the Institution can widen its activities in the field of land surveying. The lines upon which the Institution propose to proceed were set out in an article prepared by Mr. G. T. McCaw, C.M.G., O.B.E., the Honorary Secretary of the Committee, which was published in the *Journal* for March, 1938. A land surveying centre has been established at the Institution, that portion of the Forestry Museum which formerly occupied the top floor of the building having been converted for that purpose.

On the advice of the Land Surveying Committee the Council have, pursuant to an invitation received from the Acting Surveyor-General of Jamaica, undertaken the examination of apprentice surveyors in Jamaica, and have appointed Mr. McCaw and Mr. V. L. O. Sheppard, C.B.E. (ex-Surveyor-General of Egypt), examiners for that purpose.

After consultation with the Engineer-in-Chief, the Military Engineering Services, the Army in India, a scheme has been adopted by the Council for the examination of quantity surveyors in India.

A Joint Committee appointed by the Institution and the Rating Surveyors' Association was set up in 1937 to consider a reform in the law with respect to appeals in rating cases, and in particular whether some form of technical tribunal should be constituted to hear such appeals in place of Courts of Quarter Sessions. The memorandum prepared by the Committee advocating a reform in the law with respect to rating appeals had been previously sent to the Central Valuation Committee and has since been published widely in the press, and forwarded by the Council to the Ministry of Health in March of this year, together with a request that a deputation be received from the Institution to amplify the written views referred to.

A memorandum was presented to the Lord Chancellor embodying the views of the Institution on the provisions of the Leasehold Property (Repairs) Bill, introduced by the

Government in March, 1938. The memorandum appeared in the *Journal* for April, 1938.

A memorandum of observations prepared by the Scottish Executive Committee upon the Report of the Scottish Housing Advisory Committee on Rural Housing in Scotland was forwarded for the attention of the Secretary of State for Scotland.

The Special (Examinations Reorganisation) Committee has made considerable progress during the session in the formidable task allotted to it. The syllabuses of the four examination sub-divisions have each been examined by a separately appointed Sub-Committee, and the main Committee will shortly be engaged in the co-ordination of the Sub-Committees' reports.

The Rating Diploma Holders' Section (which consists of the seventy-six members who hold the Special Diploma in Rating of the Institution) held three General Meetings during the period under review, in addition to the Annual Meeting which took place on the 21st October, 1937.

"The Valuation of Cinemas for Rating" was the subject of a discussion which was opened by Mr. Eustace Peak (Professional Associate) at the first meeting on the 1st July, 1937. At the Annual Meeting a paper prepared by Mr. H. Daykin (Fellow) on "The valuation of licensed premises" was read from the Chair. "The valuation of dwelling-houses" was discussed at the meeting on the 20th January, the subject being introduced by Mr. W. Barnes (Fellow), and at the last meeting, held on the 31st March, 1938, Mr. L. C. Harris presented for discussion a paper on "The valuation of pre-war houses."

The Chairman and Hon. Secretary of the Section respectively, were Mr. A. H. London (Fellow) and Mr. George V. Nye (Fellow).

Tithe.

Throughout the session the Professional (Tithe) Committee have been in close contact and consultation with the

Tithe Redemption Commission on matters concerning the new collection schemes introduced by the Commission. After the procedure for the main collection had been established, the Commission turned their attention to the collection of tithe arrears and the apportionment and redemption of small annuities. On both these matters the Commission invited the advice of the Committee, who were afforded the opportunity of meeting the Commission on a number of occasions to discuss draft schemes.

In addition to a study of these schemes, the Committee have continued to pay attention to the difficulties experienced by collectors generally or individually arising out of the new system of collecting annuities under the Tithe Act, 1937, and have made a number of suggestions thereon to the Tithe Redemption Commission.

Royal Commissions and Parliamentary and Departmental Committees.

Ordnance Survey.

From the Special (Ordnance Survey) Committee evidence was submitted on behalf of the Institution to the Ordnance Survey Departmental Committee on the merits or otherwise of substituting a 5-inch scale for the existing 6-inch scale in future survey publications.

Rent Restrictions Acts.

On a request from the Minister of Health, Mr. C. Gerald Eve (Past President) was nominated by the Institution to serve on the Departmental Committee on the Rent and Mortgage (Interest) Restrictions Acts. A memorandum embodying the views of the Institution as to the continuance of these Acts was presented to the Departmental Committee, and representatives of the Institution subsequently attended at the Ministry of Health to give oral evidence in support of the written views contained in the memorandum. The memorandum appeared in the *Journal* for September, 1937.

County Branches.

With one exception, when a clash of official duties occurred, the President accepted all invitations to visit the County Branches during the period under review, and in the fulfilment of this, one of the more pleasurable duties of his year of office, availed himself fully of the opportunity of meeting country members and witnessing at first hand the machinery of the Branch system as a whole.

In every Branch the President was impressed at the marked loyalty and enthusiasm displayed in the interests of the Institution, and was as deeply impressed with the important educational, administrative and social work performed by the County Branch Committees for the benefit of local members, especially for those practising at a distance from London and therefore removed from the immediate advantages obtained by proximity to the central organisation. In this connection the work performed by the honorary secretaries of Branches deserves a high meed of praise, and for their unsparing work directed on behalf of the profession and their fellow-members the Council again wish to record their sincere gratitude.

At a time when agricultural matters have claimed a large measure of national attention it has been gratifying to see the keen interest taken by the rural Branches in the problems and difficulties of that industry. In this respect the enterprise of the Berks, Bucks and Oxon and the Gloucester, Somerset and North Wilts County Branches deserve special mention for the meetings which they organised for the purpose of hearing and discussing the views of leading authorities upon agricultural matters of the day. These meetings were widely noticed in the press.

A special committee was appointed to consider the major questions arising out of the Scottish amalgamations, and as a result of their recommendations several important changes were made in the administration of the affairs of the Scottish Branch. Mr. Mackay's appointment as an Assistant Secretary of the Institution for service in Scotland

has been referred to in another section of this Report. The Branch which will establish headquarters in Glasgow, have also been provided with meeting premises in Edinburgh. Four territorial Sub-Branche have been formed and five Standing Committees have been appointed. The Branch will also be responsible for preparing a quarterly Scottish supplement to the *Journal*.

Among the subjects upon which papers were read and discussed at Branch meetings during the year were the following:—

- Post-War housing as applied to rural districts ;
- Recent alterations in public health law ;
- Recent changes in farm organisation ;
- Ribbon development and the Trunk Roads Act ;
- The present state of rating ;
- Some notes on the economics of land values ;
- The making-up and taking over of private roads and streets ;
- The recommendations of a central committee on a re-valuation of domestic property ;
- Business re-organisation in farming ;
- Forestry in relation to the management of agricultural estates ;
- The shortage of farm labour ;
- Modern practice and application of Portland cement and concrete, with particular reference to air-raid refuges ;
- The recommendations of the Central Valuation Committee on the re-valuation of domestic properties ;
- The Housing Acts, 1926-31 ;
- Some improvements in the management of grassland ;
- Rent Restrictions Acts ;
- Slum clearance ;
- Farming—for defence, nutrition and profit ;
- The unification of coal royalties ;
- History of maps ;
- The Public Health Act, 1936 ;
- Two aspects of regional planning ;
- Reinforced concrete simply explained ;
- Uses of coloured cement ;
- Road development in Britain ;
- Pit props and estate woodlands ;
- The administrative organisation at headquarters ;
- Compulsory acquisition of land ;

Annual Country Meeting.

By invitation of the Kent Branch the Annual Country Meeting of 1937 was held at Folkestone from 15th to 17th June. It was thoroughly enjoyed by the members and their friends who gathered at that pleasant resort from all parts of the country.

The programme included a civic reception by His Worship the Mayor of Folkestone at the Leas Cliff Hall, followed by a dance given there by the Mayor and Corporation ; papers by Mr. A. J. Burrows (Fellow) and Mr. T. Neame on "Romney Marsh " and " The hop and fruit growing " industries in the County of Kent " respectively ; visits to the South-Eastern Agricultural College at Wye, Dover Castle, the Southern Railway Company's works at Ashford, Canterbury and Chilham Castle, Romney Marsh, Rye and Bodiam Castle ; and a whole-day excursion to Boulogne and Le Touquet. The Annual Country Dinner was held at the Royal Pavilion Hotel, and was attended by Mr. Edward W. Meyerstein (the High Sheriff of Kent), the Right Hon. the Earl of Radnor, Alderman A. Castle (the Worshipful Mayor of Folkestone), and other distinguished guests.

The special thanks of the Council are due to the Mayor and Corporation of Folkestone for the generous hospitality with which they honoured the Institution on the occasion of the visit, and to the Earl of Radnor, the Very Rev. the Dean of Canterbury, the Principal of Wye Agricultural College, the Superintendent Engineer of the Southern Railway, Ashford, the Town Clerk of Rye, Brigadier the Hon. Percy Scarlett, the Rev. Canon Tomlin, M.A., Sir Edmund Davis, Mr. L. P. Haynes, Mr. A. J. Burrows, and Mr. Tom Neame, all of whom had a considerable share in contributing to the enjoyment of the meeting.

Special mention must also be made of the services rendered by Mr. C. J. Elgar, the Chairman, Mr. R. M. Cobb, the Hon. Secretary, and the other members of the Reception Committee of the Kent Branch, whose hard work and enthusiasm in attending to the many arrangements were

largely responsible for the acknowledged success of the meeting.

The International Federation of Surveyors.

At the Annual Meeting of the Permanent Committee of the International Federation of Surveyors held in Paris in July, 1937, the Institution was represented by Colonel H. C. Cole, C.B.E. (Vice-President) (President of the Federation), Sir Charles Gott (Vice-President) (Vice-President of the Federation), Mr. V. L. O. Sheppard, C.B.E. (Fellow) (Joint Rapporteur of the Cadastral Committee), Mr. Robert Barr (Fellow), Mr. Robert Cobb (President), and the Secretary in his capacity as Secretary-General of the Federation.

A report of the proceedings of the meetings given to the Council at their October meeting referred to the keen satisfaction derived from the attending countries at the presence of Mr. Robert Cobb (the President of the Institution) and to the fact that the 1937 reunion was the first occasion on which an American representative had attended.

The report specially dealt with the work of the Committees on Cadastral Surveying and on the preparation of an International Dictionary of Technical Terms in English, French and German.

Italy has agreed to succeed the British Central Committee and Secretariat in the administration of the Federation's affairs in October of this year, and preparations are in progress for the Sixth International Congress of Surveyors, which will be held in Rome from the 5th to the 10th October, 1938, when the Sindacato Nazionale Fascista dei Geometri will be responsible for the arrangements.

To mark the close of the British administration of the Federation's affairs, the Council have decided to present the Federation with a Presidential badge, which will be formally presented on behalf of the Institution at the opening plenary meeting of the forthcoming Congress in Rome.

Agriculture and Agricultural Matters.

The Seventh Annual Conference of Agricultural Members arranged by the Land Agency Committee was held on the 11th January, 1938, and was well attended from all parts of the country. The Committee are to be congratulated upon the high standard of the proceedings at the Conference evidenced by the keen discussion evoked by the papers which were read and the attention which it received in the press throughout the country.

In the morning session the following speakers presented papers for discussion on the subject of " Soil fertility " :—

Sir John Russell, D.Sc., F.R.S., Director, Rothamsted Experimental Station.

Professor R. G. Stapledon, C.B.E., M.A., the University College of Wales, Aberystwyth.

Dr. V. E. Wilkins, M.B.E., the Ministry of Agriculture and Fisheries.

Sir John Russell and Professor Stapledon are in their respective spheres of research in this subject publicly acknowledged as the leading experts, and the Conference was fortunate in being able to have at first hand the benefits of their valuable and extensive knowledge and the opportunity of discussing with them the schemes they had put forward for increasing to the national benefit the fertility of the land. Dr. Wilkins outlined the Government's intentions under their recently introduced land fertility scheme.

The afternoon session was occupied with discussions on the following subjects:—

- (a) " Rural housing and rural labour " (opened by Mr. Francis Peter (Member of Council), of the Gloucester, Somerset and North Wilts Branch);
- (b) " Neglected woodlands " (opened by Mr. F. W. C. Chartres (Fellow), of the Cambridge, Huntingdon, Norfolk and Suffolk Branch).

The papers read at the morning session appeared in the *Journal* for February, 1938, and the afternoon's discussion was reported in the *Journal* for March, 1938.

Upon an invitation from the Minister of Agriculture, the Land Agency Committee through their Agricultural Sub-Committee considered Section 16 of the Agricultural Holdings Act, 1923, with a view to advising how the section could be amended to give effect to the original intention of policy whereby all matters arising between landlord and tenants could be settled as cheaply and as expeditiously as possible. The Committee forwarded their suggestions to the Minister, and expressed their willingness to confer with the Minister or his representatives on the point.

At the request of the Re-organisation Commission (England) for Hops, the Land Agency Committee also considered the provisions of the Hops Marketing Scheme, and recommended that the scheme should be continued in operation modified in such a way as to prevent abuses of the quota system.

The sincere thanks of the Council are again due to the Land Agents' Society for their friendly act in inviting members of the Institution to share the hospitality of the Society's tent at the Royal Show held at Wolverhampton in July last.

The Livestock (Emergency) Committee.

The Livestock Industry Act—a measure produced by the Government to rationalise the livestock industry—was in all its stages through Parliament carefully watched by the Livestock (Emergency) Committee, which secured in the interests of those engaged in the business of livestock auctioneering a number of important amendments. Due to the efforts of the Committee, auctioneers obtained the specific right to representation on the Livestock Committee—a body constituted under the Act to assist the Livestock Commission.

The many matters affecting livestock auctioneers arising out of the re-organisation contemplated by the Act have

been studied by the Committee, who have now prepared a Service Scheme with a view to its being accepted as a basis of a scheme to be made by the Commission and submitted to the Minister of Agriculture and Fisheries under Section 32 of the Act. The scheme deals with the preparation and promotion of livestock markets, orders and by-laws, the licensing of auctioneers and markets, compensation to auctioneers by reason of the operation of the Act, and the constitution of a body for the administration of the scheme.

A report of the work of the Committee for the year also shows that it has been engaged in the study of various marketing schemes and a number of Parliamentary Bills, including the Hire Purchase Bill and the Bacon Industry Bill.

The Publications.

The programme of papers read and discussed at Ordinary General Meetings during the session was as follows:—

Date	Subject of Paper.	Author.
1937. Nov. 8 ...	The Opening Address. ...	The President.
Dec. 6 ...	Practical points in arbitration.	Sir Lynden Macassey, K.B.E., K.C., LL.D., B.SC. (Associate).
1938. Jan. 10 ...	British forestry.	Sir Roy Robinson, O.B.E. (Chairman of the Forestry Commission).
Feb. 7 ...	Re-development schemes under the Housing Act, 1936.	Mr. L. H. Keay, O.B.E., M.A.R.C.H.(LIVERPOOL), F.R.I.B.A.
Mar. 2 ...	Town planning in London	Mr. G. Leslie Head, M.INST.R.A.
April 4 ...	The basis of map-making: The survey of control.	Mr. G. T. McCaw, C.M.G., O.B.E.
May 9 ...	The prevention of vibration in buildings.	Mr. J. Francis Smith, F.R.I.B.A. (Fellow).

The thanks of the Council must be recorded to those whose names appear above for the time and labour given to the preparation and delivery of papers and for their services to the Institution in promoting the dissemination of professional knowledge. The value of the meetings has also been enhanced by the participation of several distinguished visitors in the discussions.

In addition to the Ordinary General Meetings, meetings of members practising as quantity surveyors were held on 17th November, 1937, 16th February, 1938, and 20th April, 1938. On the first date a paper on "The scientific use of concrete and its effect on the cost of construction" was read by Mr. P. H. Mangin. The February meeting was devoted to discussions on (1) "The special problems of the quantity surveyor outside London," opened by Mr. T. Cuthbertson Hill, and (2) "Pitfalls in the path of the quantity surveyor," opened by Mr. B. G. Coffin. At the April meeting Sir Alfred Hurst, K.B.E., gave an address on "The objects and method of working of the London Builders' Conference." Mr. Mangin's paper appeared in the January *Journal*, and the discussion at the February meeting was included in the April issue.

The Junior Organisation.

The programme of papers read and discussed at the meetings of the Junior Organisation were as follows:—

Date.	Subject of Paper.	Author.
1937. Nov. 1...	Equality in distributing the rate burden. (Awarded the President's Prize.)	Mr. D. F. Mills (Professional Associate).
Dec. 16...	A valuer's view of monetary fluctuations. (Awarded the Ryde Memorial Prize by the Chartered Surveyors' (1913) Club.)	Mr. F. H. Spencer (Professional Associate).

Date.	Subject of Paper.	Author.
1938. Jan. 17...	The expert witness. ...	Mr. C. Gerald Eve (Past-President).
Feb. 10...	Mock arbitration.	Members of the Chartered Surveyors' (1913) Club.
Mar. 21...	Further side-lights on ribbon development.	Mr. R. Davey (Professional Associate).
April 11	The work of the Port of London Authority.	Mr. R. H. Pentleton (the Estate Officer of the Port of London Authority).
May 19...	Annual General Meeting ...	

The attendances at London meetings continue to increase, and for this year show an improvement of over 25 per cent. on the record figures obtained last year. At the meeting on the 10th February a record attendance for any meeting of the Junior Organisation was achieved, there being 234 members present. Regular meetings of the Junior Branches have also been held throughout the country.

The Annual Conference was held at the Institution on the 17th December, when, in addition to the London members, 19 out of the 21 Branches were represented.

The Annual Dinner was held at the Park Lane Hotel, Piccadilly, on the 17th December, when 192 persons were present. Among those present were the President, the Immediate Past-President, Sir Howard Button, and other distinguished guests.

With one exception all the Junior Branches have been visited during the year by the Chairman and Hon. Secretary or a London member of the Junior Committee, who have reported a noticeable improvement in the standard of the meetings all over the country. There can be no doubt that the maintenance of these official visits and the opportunities they provide for the interchange of opinion and

information serve a most useful purpose in the administration of the Junior Organisation and in securing the desired co-operation of all its members.

During the period under review the Council have received and acted upon suggestions and recommendations from the Junior Organisation as to the Examinations Scrutiny Board, publicity, By-laws, and Junior representation on the Standing Committees of the Council. In addition Junior representatives were appointed to the two special committees set up by the Council to deal respectively with the financial position of the Institution and the revision of its By-laws.

The Chartered Surveyors' (1913) Club special prize was awarded to Mr. George Edwards of Carmarthen, in recognition of his services to the Junior Organisation by founding the new South Wales and Monmouthshire Branch and presiding thereover as its first chairman.

The new Constitution and Rules of Procedure of the Junior Organisation were approved by the Council at their meeting in July, 1937. These rules set out in clearer form the constitution of the Organisation and reflect the enhanced status it now enjoys, inasmuch as the measure of self-government accorded to it has been further increased.

Following upon the Scottish amalgamations a new Junior Scottish Sub-Branch has been established with headquarters in Edinburgh. The inaugural meeting of this sub-Branch took place on 18th November, and was attended by the Vice-Chairman and Hon. Secretary of the Junior Organisation.

Mr. Guy Biscoe (Fellow), who carried out his duties with distinction, was Chairman for the year under review. Mr. H. Brian Eve (Professional Associate) again filled the office of Hon. Secretary with the outstanding success and ability mentioned in this Report last year.

The Council cannot conclude this section of their Annual Report without placing on record their sense of indebtedness to these two officers, to the Junior Committee and to all members responsible for directing the activities of the Junior Branches throughout the country for their invaluable

able work on behalf of the Institution as a whole during the year.

The Library and Collections.

The value of the Library and Loan Library has been maintained during the year by the purchase of a number of new works on technical and professional subjects and new editions of existing works already in the Library.

Several specimens have been added to the Forestry Collection during the year. That section dealing with fungi injurious to timber is now practically complete and should greatly facilitate the study of this important section of Forestry. It has taken over seven years to collect these examples, which are not easy to obtain, and the Curator of the Museum, Mr. A. D. C. Le Sueur (Fellow), is to be congratulated on the completeness of the display.

The Institution arranged exhibits in the Forestry Section of the Royal Show at Wolverhampton and the Royal Counties Show at Reading.

Honours, Awards, Public and Honorary Appointments.

The following honours were graciously conferred upon members by His Majesty King George the Sixth during the year under review:—

Sir FRANCIS L. C. FLOUD, K.C.B. (Honorary Member)	...	...	...	...	K.C.M.G.
Mr. J. A. KING (Fellow)	...	...	...	...	C.B.E.
Mr. O. G. PRICE (Colonial Fellow)	...	...	...	...	O.B.E.
Mr. GAVIN RALSTON (Fellow)	...	...	...	...	M.V.O.
(Fourth Class)					
Mr. A. E. SPENCER (Colonial Fellow)	...	...	...	...	M.B.E.
Mr. J. G. MALLETT (Fellow)	...	...	...	...	M.B.E.

His Majesty the King has authorised Professor A. F. Wickenden (Colonial Fellow) by Royal Warrant to wear the decoration of Commander of the Order of the Nile, conferred upon him by His Majesty the King of Egypt.

Mr. Richard W. Trumper (Fellow) was awarded a

Coronation Medal as a recognition of the services which he rendered to the Government as Honorary Secretary of the Professional (Tithe) Committee.

The Reference Committee for England and Wales, consisting of the Lord Chief Justice of England, the Master of the Rolls and the President of the Chartered Surveyors' Institution, appointed Sir Charles Gott, M.INST.C.E., F.G.S. (Vice-President), and Mr. A. Lloyd Thomas, M.B.E. (Fellow), to the Panel of Official Arbitrators constituted under the Acquisition of Land (Assessment of Compensation) Act, 1919. Sir Charles Gott's appointment took effect as from the 1st September, 1937, and Mr. Lloyd Thomas' as from the 20th September, 1937.

Mr. S. Fitch (Fellow) has been appointed Chief Land Commissioner to the Ministry of Agriculture and Fisheries in the place of Mr. H. V. Raffety on his retirement from the Service.

The Minister of Health has re-appointed Mr. John A. F. Watson (Fellow) for a further period of service on the Central Housing Advisory Committee. The congratulations of the Council are extended to Mr. Watson on his re-appointment.

Mr. William C. Davidson (Fellow) has been appointed a member of the Scottish Housing Advisory Committee. Mr. Davidson is also a member of the Council of Management of the Scottish (Special Areas) Housing Association, which was formed last year.

Mr. J. E. Bidwell (Past-President), Sir John Oakley, G.B.E. (Past-President), and Colonel H. C. Cole, C.B.E. (Vice-President), were nominated to represent the Institution on the Board of Governors of the College of Estate Management.

Mr. John F. Bowden (Fellow) was appointed as a representative of the Institution on the Court of Governors of the University College of the South-West, Exeter.

Mr. John M. Theobald (Past-President) was re-appointed as the Institution's representative upon the Selection Board appointed to interview applicants for posts as Surveyors of

Works in the Military Engineering Services of the Army in India.

Mr. J. G. Elsworthy (Fellow) was re-appointed to represent the Institution on the Architects' Registration Council for the year beginning March, 1938, and Mr. S. Vvyvian Hicks (Fellow) was appointed to represent the Institution on the Admission Committee of that Council for the same period.

Mr. Cecil H. Bailey, B.Sc. (Fellow), was appointed to represent the Institution at a meeting called by the Geological Society of London for the purpose of electing general organising and executive committees to make arrangements for the 18th International Geological Congress to be held in 1940.

Mr. H. W. Langdon (Member of Council) was appointed to represent the Institution on the Council of the National Playing Fields Association in the place of the late Mr. E. S. Cox.

Mr. Arnold G. Keen (Fellow) was nominated to represent the Institution on the Selection Board appointed by the Board of Inland Revenue to interview candidates for appointment as third-class valuer, Valuation Office.

Major H. Hamer (Fellow) has been appointed City Engineer, Liverpool.

Mr. William Morris, A.M.INST.C.E. (Fellow), has been appointed as City Engineer and Surveyor to the City and County of Kingston-upon-Hull.

Mr. G. F. D. Stephen (Professional Associate) has been appointed Assistant Town Planner to the Government of the Malay States.

The following other appointments have been made by the Council during the session in response to invitations from the bodies concerned:—

The Royal Sanitary Institute—Health Congress:—

As official delegates: Mr. L. W. JUKES (Fellow) and Mr. H. G. BAKER (Fellow).

The British Standards Institution :—

Representative on the Committee for Standardisation of Insulation and Hardboard: Mr. J. F. G. SMITH (Fellow).

Representative on the Committee for Standardisation of Sheet Zinc for Roofing Purposes: Mr. F. H. HEAVEN (Professional Associate).

Financial Statement.

The accounts for the year ended 31st December, 1937, now presented, show a balance of income over expenditure of £849 8s. 8d., compared with £2,964 17s. in 1936. When the amounts of £1,753 10s. and £1,463 0s. 7d., received as entrance fees and income from investments respectively and placed to capital account, are added, the surplus for the year is shown to be £3,065 19s. 3d. as compared with £4,372 18s. in 1936.

ADDENDUM.

Notes from the Reports of the Examiners, 1938.

The object of these notes is to call attention to the defects in the work of candidates in the examinations, in particular to features to which more attention should be paid ; and to the respects in which want of preparation was shown. The notes are not primarily intended to be a general review of the examination work for the year.

The inability of candidates to express themselves clearly and concisely was commented on by many examiners, and there were many reports of bad grammar and spelling. Marks were lost by far too many candidates through careless reading of instructions. This fault was particularly noticeable in all Constructive and Working Drawings Papers, where Questions 1 and 2 were compulsory, but three questions in all had to be attempted. Many candidates only answered the two compulsory questions, while certain others attempted too many questions. More care is also required in the reading of questions and in confining answers to the questions as set, though this fault was not commented on so much this year as in previous years. Untidy work was reported in the Quantities Reports and Measurement and Trigonometry Papers, where the examiners also found difficulty in reading the candidates' handwriting. In those subjects involving the use and setting out of mathematical calculations there was a general absence of tidiness and systematic setting out of the calculations, and too many instances of faulty and careless calculations. Three cases of candidates having obviously studied from out-of-date text-books were reported, and candidates are advised to pay particular care in their selection of text-books. In the legal subjects there is a general recommendation for candidates to pay more attention to recent decided cases.

Acts for Compulsory Purchase.—A reasonably satisfactory standard was reported. The majority of candidates seem to be well acquainted with the compensation payable for slum clearance, though a few appeared to have used an out-of-date edition of the text-book and believed that the "reduction factor" (abolished in 1935) could still be applied. Question 4 was generally badly answered. The answers of many candidates indicated a lack of practical experience of compensation questions and that the candidates would be quite unqualified to deal with such cases in practice. The examiner also commented that the papers showed a general weakness in composition and grammar.

Agricultural Law.—A standard is reported well above the average, Questions 1 and 7 being particularly well answered. The subjects dealt with in Questions 2 and 4 showed a general lack of preparation; there was also a tendency in Question 2 for candidates to give the custom prevailing in particular counties.

Agricultural Science.—The work was very variable, there being several excellent sets of answers and as many hopelessly weak. The question on the identification of common grasses, seeds, feeding-stuffs, &c., was badly answered, showing that candidates had relied too much on knowledge gained from text-books. Several candidates who wrote quite well on grassland failed to recognise either perennial rye grass or Yorkshire Fog, while many mistook a beaded wheat for barley. The purely theoretical questions were generally well answered, but the work as a whole showed that a considerable number of candidates had been working with out-of-date editions of text-books. Several answers reflected the state of knowledge on the subject five or even ten years ago.

Agricultural Valuations.—The examiner reports a better standard than that of previous years. The majority of candidates showed a sound knowledge of the Agricultural

Holdings Act and could quote sections by number. In certain papers a distinct lack of practical experience was detected. This was particularly reflected in the candidates' knowledge of the monetary values of materials, even of farmyard manure.

Agriculture (Practice).—The standard attained, which was only fair, cannot, the examiner reports, be regarded as wholly satisfactory. While there was a marked improvement in the candidates' knowledge of the various marketing schemes and measures dealing with Government assistance to the different branches of the industry, the answers to the practical questions touching on the economics of agriculture were generally poor. Candidates also showed little aptitude for framing an agricultural policy in the light of present-day conditions.

Book-keeping.—The standard was slightly higher than that of last year, but is still far from satisfactory. The rules appeared to have been memorised without any idea of how to apply them. Exercises are still poor and slipshod. Candidates are again advised to appreciate the value of the subject and to work out exercises in the course of their preparation.

Building Materials.—In the Intermediate Paper the standard was slightly improved, although the examiner feels it necessary to emphasise again that candidates are very careless in the reading of the questions. Only three candidates answered Question 2 in a proper manner, and far too many lost marks through not confining their answers to the questions as set.

Central and Local Government.—The examiner reports that the general standard was satisfactory, but less so in local government than central government. The work on

Questions 8, 9 and 10, which dealt with subjects of especial interest to prospective surveyors, was disappointing. These questions would have been better answered if candidates had paid more professional interest to the everyday activities of local authorities.

Constructive and Working Drawings.—In the typical paper the average was slightly above that of recent years. Question 4 was very badly answered by the majority of candidates ; quite a few did not even attempt to answer the question. Many of the answers received indicated a lack of practical experience ; especially was this observed in the answers to Question 2, as the timbers in the partition were often figured in impossible sizes, and the scarf to the tie beam was often omitted. The draughtsmanship displayed by candidates is still much below a satisfactory standard having regard to its intrinsic importance.

In the final examination, typical, the work displayed a fair average general knowledge. In the non-typical paper the work was very poor. Numerous candidates appeared to interpret the instruction to attempt two compulsory questions as an indication that answers to two compulsory questions was all that was required. Greater care should be paid to the instructions appearing on the examination paper. Weakness was observed in the candidates' knowledge of brick bonding, construction of floor openings, brick footings, simple roofs and hollow wood floors. Too little attention had been paid to roof slating and plumbing through ventilation of air space below hollow wood floors.

In the intermediate examination in the non-typical paper the standard this year was the highest reached since 1934. The use of modern materials was in the main not well understood, and a lack of knowledge was displayed in the distribution of loads and use of empirical formulæ in calculating dimensions for normal structures. Generally a better knowledge of brick bonding, simple roof construction and plumbing could have been shown.

Construction of Buildings.—Only a fair standard was reached. There appeared to be a lack of knowledge as to lathing and plastering of ceilings and the construction of drip and firing of flat roofs. The size of joists in upper floors and the trimming round hearths should have been better known. The examiner reports that too much time was spent on details, many candidates giving lengthy answers to questions although they were specifically instructed to keep their answers brief. Also many candidates gave sketches not asked for.

Draughtmanship.—The general standard was higher than that of last year. The examiner considers that there is still room for a great deal of improvement. Correct scaling for the calculation of areas and for enlarging and reducing plans appear to be the candidates' principal difficulty, and it was apparent that many of them had had little or no experience in laying out a diagram of survey lines. Too little attention was paid by the candidates generally to the lay-out and finish of a plan, and in particular the candidates showed a lack of preparation in lettering. Plotting from field notes was slightly better and pen work was good, but the examiner again advises that candidates should acquire a better appreciation of the use of surveyors' scales.

Drainage of Buildings.—The work is reported as being satisfactory. In Question 2 a number of candidates showed that they had little idea of the form of a brass or a gun-metal thimble used in the jointing of a lead pipe to an iron or stoneware drain, or the reason for its use. In Question 3, while the majority of candidates showed a knowledge of the various tests—water, smoke, air, &c.—many appeared to have little or no idea of how to apply these tests. Some of the drainage sketches were excellent, but in the main they reflected a lack of practical experience on the part of the candidates.

Economics.—A most satisfactory report has been received on this subject, the standard of work being, in the examiner's view, much higher than that hitherto obtained. The examiner further reports that the work throughout has been marked by a most unusual evenness of standard, showing that the majority of candidates had obviously undertaken serious preparation for the examination. Surprisingly sound knowledge of the history of economic theories was shown by the majority of candidates.

Elements of Forestry.—A high standard was reached in this subject, more than half the candidates obtaining an excellent percentage of marks. While the papers evidenced a sound knowledge of the elements of silviculture, no candidate was able to show that he had the knowledge to instruct efficiently an unskilled workman in how to carry out the simplest form of planting. There was also a definite lack of ability to identify twigs of the more common woodland trees and to distinguish between sitka spruce and the common larch.

Forestry Practice (Indoor).—The examiner reports that while the standard reached was no means poor, it did not reach his expectations. The majority of the candidates showed a marked ignorance of the market prices of oak, beech and Scots pine, while a considerable number appeared to be under the handicap of never having seen or watched simple nursery operations in progress. It was satisfactory to find that candidates generally appeared to have received a good grounding in silvicultural principles and notably in soil science.

Farm Homesteads.—A fairly satisfactory standard was obtained. In Question 1, dealing with a plan and section of a cowshed, candidates paid too little attention to details of light and ventilation now regarded as being of major importance. Question 4 was badly answered, only a few candidates showing any real knowledge of a gravitation water supply. The last question was better answered,

showing evidence of practical acquaintance with dairy requirements.

Geology and Soils (Intermediate).—The general knowledge of this subject shown by candidates was on the whole an improvement over previous years, the examiner reporting that there was less tendency to treat the paper as an agricultural one. Question 5 was very well answered.

Heating and Ventilation (Final).—The standard attained was reported by the examiner as good and showing a marked improvement over that of recent years. The question on instruments used in testing the efficiency of ventilating schemes was answered by only a few candidates, while a general weakness was detected on the part of candidates to appreciate the changes in methods of heating and ventilating which has taken place during the last few years. The question on heating a building by the one pipe drop system was well answered, as was the question on the definitions of measurement of heat.

Imperial Taxation.—It is regretted that the standard of the papers was definitely lower than that of last year. Income tax appeared to be the subject in which the main weakness was shown, and candidates are advised to pay more attention to the procedural aspect of this tax. For instance, a knowledge of the distinction between an amount assessed and an amount computed would go far towards giving students a framework on which to base their ideas. The distinction between tax paid and tax borne (Question 7) was not understood, neither was relief under Rule 6 of Schedule B as a distinct question to the right to be assessed under Schedule D (Question 5). Question 1 was also badly answered, many candidates being unable to calculate the gross Schedule A assessment from the rent and thus to arrive at the net assessment. Land tax generally seemed to be well understood, and the answers to the death duty questions were in the main satisfactory.

Land Drainage.—The standard of work this year showed improvement over that of recent years. The questions relating to theory and practice were well answered, but more attention should have been given to the administrative and legal aspects of the subject.

Law of Arbitrations.—Although the general standard was satisfactory, considerable improvement could have been obtained if candidates had had more experience in applying the law of arbitration. It was regrettable to find many candidates answering six questions when they were only required to answer five. A lack of preparation was shown in the drafting of arbitration agreements, many candidates being clearly ignorant of what constituted a binding agreement. There was a marked ignorance of the provisions of the Arbitration Act, 1924, and candidates are advised to make a more detailed study of this Act. The ability to state a case was generally satisfactory.

Law of Arbitration (Final).—The standard attained was only fair, the reason being, in the examiner's view, that candidates had not followed the reasoning of the more recently decided cases on the subject. There were few papers of outstanding merit, and the examiner reports many instances of bad spelling.

Law of Easements (Final).—Again the examiner reports that there was no improvement in the work, which showed a noticeable lack of preparation. Too little attention had been paid by candidates to reading legal decisions regarding easements, and candidates are advised to give more study to this aspect of the subject.

Law Relating to Land.—A satisfactory standard was reported, although there were fewer outstandingly good papers than usual. Question 3 was poorly answered, candidates displaying weakness in their knowledge of the law of mortgages. Many were unable to show how the right

to redeem is lost on foreclosure and were further unable to distinguish between foreclosure and sale. Candidates are advised to pay more attention to this section of the subject in which this year a surprising number of candidates displayed ignorance on even the elementary points.

Law of Vendors and Purchasers.—Only a moderate standard was reached, chiefly through a lack of knowledge of bills of sales and the Settled Land Acts.

Levelling (Indoor).—The work was good, showing generally a sound grasp of the general principles of the subject. The candidates again failed to appreciate the importance of the work of the staff-holder, and the exact nature of the permanent adjustments of modern types of levels were poorly understood by many candidates. The examiner advises candidates to exercise more care in reading the questions.

London Building Acts.—The work was slightly below the average and displayed in particular a lack of knowledge of the By-laws in force. In many instances it appeared that insufficient time had been given to careful reading of the Act.

Measurement of Builders' Work (Intermediate).—A fair standard was reported this year showing improvement over that of last year. Candidates generally displayed a lack of knowledge in the quantity of materials required for specified works, and weakness was displayed in the checking of builders' accounts. The questions relating to unit of measurement used for "taking-off" and billing were much better answered.

Measurement of Builders' Work (Final).—It is regretted that the general standard in this subject this year was definitely poor. The majority of candidates seemed to have very little knowledge of how to measure quite ordinary

circular work, or even how to set the dimensions down showing whether a linear or superficial, &c., circular measurement was involved. Weakness was also displayed by candidates in measuring a plain lifted roof. Candidates are advised when studying to consider what the item they are going to measure involves in the way of labour and materials, and consequently cost. This should give them at once the relative importance of the item and, therefore, the amount of care required in describing and measuring. Candidates are further advised that it is much more important to explain how the work is done than to put down a diagram. A surprising number of errors was found in the "ruling dimensions."

Measurement and Valuation of Dilapidations (Final).—The work showed a general improvement and a better understanding of the nature of a schedule of dilapidations as distinct from a specification. Many candidates did not understand what was meant by the expression "Schedule of Plight and Condition," and on the other hand a few candidates gave a complete answer to this question. A lack of clarity and neatness in the survey bookwork was reported.

Mensuration and Trigonometry.—A disappointing standard was attained in this subject. Candidates displayed a marked weakness in the application of logarithms and a lack of knowledge of the functions of angles, particularly in regard to Questions 4 and 6. Too little attention had been given to the appreciation of the exactitudes of superficial areas and volumes in mensuration, and for the purpose of solving areas of triangles stereotyped methods were adopted where a little thought would have suggested a simpler method of solution. Carelessness in calculations was most marked, and the systematic setting out of workings left much to be desired.

Public Health Acts.—Only a fair standard was reached. Many candidates wasted valuable time in giving informa-

tion not wanted to a particular question as set, thereby not leaving time for them to do justice to other questions. Exceptional knowledge was displayed in particular items, but very few candidates showed a satisfactory all-round knowledge of the subject.

Quantities (Intermediate).—In the morning paper (Taking-off) the standard was below the average expected for a typical subject. Many candidates made needless repetition of items instead of grouping their dimensions of similar items under one description. More attention should be given to descriptions. Question 1 was answered very badly, and in Question 3, which called for three windows, half the candidates overlooked the timesing. In Question 2 proper allowances for the housings of steps, strings and handrails were not made by the majority of candidates.

In the afternoon paper (Working-up) the standard was only fair. The abstracting of the external plumbing was poor, and generally the abstracts were not set out to show clearly the diameters and the various fittings or labours.

Quantities (Final).—In the first paper the work was reported as poor. The examiner reports that candidates continue to scale from their drawings in preference to calculating from figure dimensions. The examiner advises that more attention should be given to description of items and that candidates should obtain a better knowledge of materials. A further fault was the lack of proper grouping of dimensions. Some improvement was shown in setting out dimensions, although this aspect of the subject yet cannot be described as generally satisfactory.

Report.—Generally a fair standard was reached in the various sub-divisions, though a noticeable lack of experience in Report writing was displayed by the majority of candidates. In the Land Agency Sub-division many papers lacked sufficient preamble setting out the purport of the Report. Weakness was displayed in the Women House

Property Management section, where many omitted any reference to the client's instructions, either by opening paragraph or covering letter.

In this subject candidates are particularly advised to pay attention to handwriting and tidiness.

Road-making.—The work was generally fair. Few candidates recognised the fundamental importance of dry foundations and impervious surface in road-making, though concrete road construction had been well studied and costing was generally well understood.

Sanitation of Houses (Final).—The examiner was pleased to report a decided improvement in the general knowledge of the broad principles of this subject. Drain ventilation remains a weak point. The majority of candidates appeared to understand the broad principles better, but revealed ignorance of the essentials to induce air movement in a drain by making some suggestion which would improve, say, 30 ft. of drain, but by doing so render perhaps 100 ft. quite stagnant. Only two or three candidates really appreciated what happened in detail inside a liquefying tank; the majority were quite correct in their ultimate result, but revealed that they did not actually know why that result was achieved. There was a decided improvement in the broad lines of drainage design.

Specifications of Buildings.—Only a fair standard was reached. It appeared that very few of the candidates had had any instruction or practical experience in the writing of specifications. The knowledge of building construction was generally good, but very few candidates appeared capable of writing a specification in a neat, clear and concise form, which would have easily been understood by the workmen who would have had to use it.

Steel and Concrete Construction.—The work was an improvement over that of last year, and showed that

generally the subject had been well studied. General weakness was displayed in dealing with reinforced concrete, showing a lack of practical experience on the part of the majority of candidates. Many failed to understand the joint action of dissimilar materials. A better knowledge of structural mechanics was shown by candidates this year than in former years.

Surveying (Indoor).—A fair standard was reported. It was disappointing to find that *stadia* surveying was found to be almost unknown to the majority of the candidates, and that so little thought had been given to the important subject of the possible errors in theodolite work. The mathematical portions of the answers showed improvement, but many candidates showed inability to express themselves in clear and concise English.

Town Planning.—A satisfactory standard was attained, the lay-outs generally being good. A lack of preparation was shown in studying the model clauses issued by the Ministry of Health under the Town and Country Planning Act, 1932, and too little attention had been paid to the Restriction of Ribbon Development Act, 1935. Generally, candidates are advised to pay more attention to the current legislation affecting this subject.

Valuation of Land and Buildings (Final).—The low standard of the work this year could, in the examiner's view, have been considerably improved if candidates had had more practical experience. Few candidates appreciated that the personal covenant of a lessee at a rack rent has a bearing upon value. In answering the question as to the reasons for a lower yield upon leasehold and freehold property, the majority of candidates appeared to be under the impression that a freeholder is unhampered by any restrictions upon his development of the property, and that the income is one in perpetuity without any allowance for sinking fund for replacement of fabric. A number of

candidates did not know the meaning of the term " writing " down " in connection with a balance sheet.

Valuations, The Principles of.—The work was only fair, but showed a little improvement on that of last year. Candidates had paid too little attention to principles, but showed obvious signs of having " crammed " details. This was most marked in Questions 3, 4, 6 and 7. In Question 4 the majority of candidates advised selling all the properties, ignoring the fact that the charity had of necessity to live on income. In Question 5 few made allowance for loss of floor areas and redevelopment, and many ignored the terms of letting of the upper floors. Question 7, which carried the highest marks, was answered worse than any. The question was set to test the ability of candidates to apply appropriate ground rents over sites, but the majority of candidates failed entirely to appreciate this.

BALANCE SHEET

LIABILITIES.					£	s.	d.	£	s.	d.
Sundry Creditors	...	...	...	...	4,257	5	1			
Subscriptions for 1938 paid in advance	...	...			1,251	12	0			
Examination Fees for 1938 paid in advance	...	...	...	£7,371	6	3				
Examination Fees carried forward to 1938	...	...	...	592	14	6				
							7,964	0	9	
								13,472	17	10
Accumulations Account	...	...	...	...	50,834	2	10			
<i>Add Entrance Fees received during year—</i>										
Fellows	...	...	...	...	491	8	0			
Professional Associates, &c.	...	...	...	...	1,262	2	0			
								52,587	12	10
Investments and Funds received from Scottish and Irish Societies amalgamated with the Institution	...	...			5,425	18	6			
Interest from Investments	...	...	...	...	1,463	0	7			
								59,476	11	11
Excess of Income over Expenditure	...				849	8	8			
								60,326	0	7
Less Decrease in Value of Investments	...	...			2,229	15	8			
								58,096	4	11

(NOTE.—The value of the premises at Nos. 11 and 12, Great George Street and of the Furniture and Effects of the Institution is not included in the above amount of £58,096 4s. 11d.

Carried forward ... £71,569 2 9

31st DECEMBER, 1937.

ASSETS.

					£	s.	d.	£	s.	d.
<i>Cash—</i>										
				GENERAL ACCOUNT.						
In hands of Secretary	...	...	...	...	240	0	0			
At Bank on Deposit Account	...	...	...	...	1,000	0	0			
„ „ Current	„	...	...	...	142	17	8			
								1,382	17	8
<i>Investments, market price 31st December, 1937—</i>										
£15,800	13	0	3½%	Conversion Loan @ 102	...	16,116	13	3		
1,811	1	11		New South Wales 4% Stock (1942-62)						
			@ 99	...	...	1,792	19	8		
5,563	19	1		Metropolitan Water Board 3% B Stock						
			@ 89	...	...	4,951	18	6		
11,300	0	0	2½%	Funding Stock @ 89½	...	10,113	10	0		
4,000	0	0		London Electric Transport Finance Corporation, Ltd., 2½% Guaranteed						
				Debenture Stock @ 90	...	3,600	0	0		
3,000	0	0		New Zealand 3% Stock (1952-55) @ 89	...	2,670	0	0		
3,000	0	0		Birkenhead Corporation 3% Redeemable Stock, 1957 @ 95	...	2,850	0	0		
8,000	0	0		Commonwealth of Australia 2¾% Stock (1941-43) @ 98½	...	7,880	0	0		
4,000	0	0		City of Leicester 3% Stock (1958-63) @ 95	...	3,800	0	0		
3,314	18	7		India 3% Stock @ 78½	...	2,602	4	5		
8,424	8	10	2¾%	Funding Loan (1952-57) @ 94¾	...	7,982	3	2		
1,050	0	0		London and North Eastern Railway 3% Debenture Stock @ 77½	...	813	15	0		
100	0	0		London and North Eastern Railway 4% 1st Guaranteed Stock @ 94½	...	94	10	0		
200	0	0		London and North Eastern Railway 4% 2nd Guaranteed Stock @ 88½	...	177	0	0		
250	0	0		Commonwealth of Australia 4% Loan (1955/70) @ 104	...	260	0	0		
1,557	17	10	3½%	War Stock @ 101½	...	1,581	5	1		
1,200	0	0	3%	Conversion Stock (1948-1953) @ 101	...	1,212	0	0		
529	12	9	3%	Local Loans @ 86¾	...	459	9	2		
139	0	0		Glasgow Corporation Loans Fund @ 99	...	137	12	2		
								69,095	0	5
Sundry Debtors and amounts paid in advance	...					1,091	4	8		
				Carried forward	...	£71,569	2	9		

BALANCE SHEET

LIABILITIES—(<i>contd.</i>).			£	s.	d.	£	s.	d.
Brought forward ...						71,569	2	9
Library, Forestry, and Geological Collection ...						7,316	11	11
Prize Endowment Account						5,329	15	6
Scholarship Account—General			15,424	11	6			
" " " Penfold "			1,360	0	0			
						16,784	11	6
Guarantees to Public Trustee						7	15	6

We have audited the Income and Expenditure Account and the Balance Sheet for the year ended 31st December, 1937. We have obtained all the information and explanations that we required; and in our opinion such accounts are properly drawn up so as to exhibit a true and correct state of the affairs of The Institution according to the best of our information, and the explanations given to us, and as shown by the books of The Institution.

TANSLEY WITT & CO.,
Chartered Accountants.

5, Chancery Lane, W.C. 2.
27th April, 1938.

We report that with the assistance of the Chartered Accountants we have examined the foregoing Accounts for the year ended 31st December, 1937, and find same to be correct. We have also examined the Deeds and Securities, and certify that they were in possession and safe custody as on the 31st December, 1937.

A. STRACHAN BENNION,
E. J. POULTON,

Hon. Auditors.

27th April, 1938.

£101,007 17 2

31st DECEMBER, 1937—(contd.).

ASSETS—(contd.).

£ s. d. £ s. d.

Brought forward ... 71,569 2 9

TRUST FUNDS.

Library, Forestry, and Geological Account.

Investments, market price 31st December, 1937—

£3,355 12 8 $3\frac{1}{2}\%$ Conversion Loan @ 102 ... 3,422 14 11

401 16 9 West Australia 4% Stock @ 99 ... 397 16 5

Library, Forestry, and Geological Collection ... 2,361 4 5

6,181 15 9

Cash at Bank on Current Account ... 1,134 16 2

7,316 11 11

Prize Endowment Account.

Investments, market price 31st December, 1937—

£503 1 11 India 3% Stock @ $78\frac{1}{2}$... 394 18 8

197 0 0 London Midland and Scottish Railway
4% Debenture Stock @ 103 ... 202 18 2

270 0 0 London and North Eastern Railway
Second Guaranteed Stock @ $88\frac{1}{2}$... 238 19 0

2,187 10 9 $3\frac{1}{2}\%$ Conversion Loan @ 102 ... 2,231 5 9

1,059 3 8 $2\frac{1}{2}\%$ Consolidated Stock @ $74\frac{3}{4}$... 791 14 10

470 3 5 India $3\frac{1}{2}\%$ Stock @ 92 ... 432 11 1

500 0 0 Courage & Co. $3\frac{1}{2}\%$ Debenture Stock
@ $91\frac{1}{2}$... 457 10 0

202 9 10 $3\frac{1}{2}\%$ War Loan @ $101\frac{1}{2}$... 205 10 7

4,955 8 1

Cash at Bank on Current Account ... 374 7 5

5,329 15 6

Scholarships Account.

Investments, market price 31st December, 1937—

£9,290 3 1 $3\frac{1}{2}\%$ Conversion Loan @ 102 ... 9,475 19 2

1,988 1 7 Metropolitan Water Board 3% B Stock
@ 89 ... 1,769 7 10

1,813 3 0 Queensland 4% Stock (1940-50) @ 101 1,831 5 7

2,324 14 0 New Zealand 4% Stock (1943-63) @ 101 2,347 18 11

1,600 0 0 Canadian Pacific Railway 4% Deben-
ture Stock @ 85 ... 1,360 0 0

16,784 11 6

Guarantees to Public Trustee.

Cash at Bank on Current Account ... 15 6

£101,007 17 2

INCOME AND EXPEN

FOR THE YEAR ENDED

EXPENDITURE.

	£	s.	d.	£	s.	d.
To GENERAL AND EXAMINATIONS:—						
Ground Rent	1,380	0	0			
Rates and Taxes, Corporation Duty and Insurance	2,552	7	4			
Fuel, Light, and Water	458	14	6			
Salaries	7,390	2	6			
Wages	837	5	0			
Staff Superannuation Fund	697	15	11			
Staff Endowment Insurance	40	7	1			
Hire of Halls and Instruments, Examiners' Fees, &c.	2,933	17	3			
Printing, Lithography and Stationery	1,589	15	6			
Postage, Receipt Stamps, and Telephone	688	11	5			
Parliamentary Papers and Periodicals	113	2	7			
Law Charges	£78	17	6			
Less costs refunded	44	2	0			
		34	15	6		
Repairs and Fittings	175	0	0			
Renovating of Portraits	35	0	0			
Office and Printing Room Equipment	237	19	8			
House Account and Sundries	1,383	19	8			
		20,548	13	11		

NOTE:—The general expenses in connection with the Examinations are included in their respective accounts above.

To PRINTING AND PUBLICATIONS:—

<i>Journal</i> : Reporting and Publication	2,269	19	2			
Postage	834	1	8			
	3,104	0	10			
Less Amount received from <i>Journal</i> Advertisements	208	7	6			
	2,895	13	4			
Town Planning : England and Wales, List of Schemes showing present Position	218	13	6			
List of Members for 1937	1,065	19	9			
	4,180	6	7			
Carried forward	£24,729	0	6			

TURE ACCOUNT.

T DECEMBER, 1937.

INCOME.

	£	s.	d.	£	s.	d.
BY SUBSCRIPTIONS :—						
Fellows' Subscriptions	11,885	3	8			
Professional Associates', Colonial Fellows' and Associates' Subscriptions	8,736	10	0			
Students' Subscriptions	413	14	0			
Probationers' Subscriptions	1,117	11	0			
Women's House Property Managers' Subscriptions	46	4	0			
	22,199	2	8			
By Candidates' Examinations Fees	7,732	1	10			
„ Sale of Syllabus	199	15	4			
„ Hire of Rooms	432	17	0			
„ Rent of Leasehold Property :—						
No. 11, Great George Street, S.W. 1	900	0	0			
BY SCHOLARSHIPS ACCOUNT :—						
Interest on Investments (<i>less</i> Tax)	464	17	5			
				31,928	14	3

Carried forward ... £31,928 14 3

INCOME AND EXPEN.

EXPENDITURE—(contd.)

	£	s.	d.	£	s.	d.
Brought forward				24,729	0	6
To OTHER ACTIVITIES:—						
London and County Branches and Junior Org- anisation	3,875	0	1			
Country Meeting held at Folkestone	299	5	1			
Donations for Professional Objects	544	17	4			
Publicity Account	533	16	2			
Expenses in connection with the Coronation of H.M. King George VI.	123	1	0			
Expenses of Scottish Estate Factors' Society since amalgamation with the Institution	226	6	11			
Law Charges on Amalgamation with the Institu- tion of—						
Scottish Estate Factors' Society	177	17	0			
Faculty of Surveyors of Scotland	152	13	6			
Irish Quantity Surveyors' Association	36	13	0			
International Federation of Surveyors	122	8	0			
				6,091	18	1
To SCHOLARSHIPS ACCOUNT:—						
Terms' Fees, &c.				258	7	0
				31,079	5	7
„ Excess of Income over Expenditure carried to Accumulations Account				849	8	8
				£31,928	14	3

TURE ACCOUNT—(contd.).

INCOME—(contd.)

			£	s.	d.
Brought forward	...	...	31,928	14	3

£31,928 14 3

LIBRARY, FORESTRY, AND

1937.	£	s.	d.	£	s.	d.	£	s.	d.
Dec. 31st. To Purchase of Books and Maps, &c. :—									
Reference Library ...	113	5	2						
Loan Library ..	43	4	0						
				156	9	2			
„ Annual Subscriptions ...	4	14	0						
„ Honorarium to Forestry Curator	52	10	0						
„ Grant to Branch Library ...	30	0	0						
				87	4	0			
„ Insurance ...	8	15	0						
„ Stationery, Printing and Postage ...	3	16	1						
„ Binding ...	27	7	8						
„ Sundry Disbursements ...	13	13	5						
				53	12	2			
„ Purchase of Forestry Exhibits ...				1	6	5			
„ Expenses of Forestry Exhibits at Royal and Royal Counties Agricultural Shows ...				36	5	0			
							334	16	9
„ Depreciation ...				177	2	9			
„ Decrease in Value of Investments ...				146	9	0			
							323	11	9
„ Balance carried forward to 1938 :—									
£3,355 12s. 8d. 3½% Conversion Loan @ 102 ...				3,422	14	11			
£401 16s. 9d. West Australian 4% Inscribed Stock @ 99 ...				397	16	5			
Value of Books, Forestry and Geological Collections...				2,361	4	5			
							6,181	15	9
Cash at Bank ...				1,134	16	2			
							7,316	11	11
							£7,975	0	5

GEOLOGICAL ACCOUNT.

1937.						£	s.	d.	£	s.	d.
Jan. 1st.	By Balance brought forward from 1936	...							7,324	16	10
Dec. 31st.	,, Increased Value at this date :—										
	Books purchased	...	...	...					156	9	2
	,, presented	...	...	...					20	0	0
	,, Dividends (<i>less</i> Tax)	...	...	...					100	19	5
	,, Donations	...	...	...	...				372	15	0

£7,975 0 5

"PRIZE ENDOWMENT"

1937.	£	s.	d.	£	s.	d.
Dec. 31st. To Amount paid for :—						
" Beadel " Prize	7	17	6			
" Driver " Prize	16	0	0			
" Crawter " Prize	10	5	4			
" Penfold " Gold and Silver Medals ...	22	15	0			
" Mellersh " Prize	5	6	4			
" Wainwright " Prize	31	6	3			
" Daniel Watney " Travelling Scholarship	30	0	0			
" Galsworthy " Prize	28	4	11			
" Julian Rogers " Scholarship... ..	22	2	0			
" John Gilchrist " Prize	4	4	0			
" Hyman Marks " Prize... ..	6	16	4			
					184	17 8
„ Decrease in Value of Investments ...					322	16 11
„ Balance carried forward to 1938, viz. :—						
Being Investments at market price,						
31st December, 1937—						
£503 1s. 11d. India 3% Stock @ 78½	394	18	8			
£197 London Midland & Scottish						
Railway 4% Debenture Stock						
@ 103	202	18	2			
£270 London & North Eastern Rail-						
way Second Guaranteed Stock						
@ 88½	238	19	0			
£2,187 10s. 9d. 3½% Conversion Loan						
@ 102	2,231	5	9			
£1,059 3s. 8d. 2½% Consolidated						
Stock @ 74¾	791	14	10			
£470 3s. 5d. India 3½% Stock @ 92	432	11	1			
£500 Courage & Co. 3½% Deben-						
ture Stock @ 91½	457	10	0			
£202 9s. 10d. 3½% War Loan @ 101½	205	10	7			
					4,955	8 1
„ Cash at Bank					374	7 5
					£5,837	10 1

COUNT, 1937.

1937.	£	s.	d.	£	s.	d.
Jan. 1st. By Balance brought forward from 1936 ...				5,652	9	2
Dec. 31st. „ Dividends for year to date (<i>less</i> Tax) and Income Tax returned to April, 1937 :—						
“ Beadel ” Bequest	7	16	8			
“ Driver ” Bequest	16	9	0			
“ Crawter ” Bequest ”	10	14	8			
“ Penfold ” Bequest	14	19	11			
“ Mellersh ” Bequest	5	0	3			
“ Wainwright ” Bequest	26	10	8			
“ Daniel Watney ” Gift	24	15	11			
“ Daniel Watney ” Gold Medal	20	12	8			
“ Galsworthy ” Gift	18	17	5			
“ Julian Rogers ” Bequest	19	13	1			
“ John Gilchrist ” Bequest	4	7	0			
“ Hyman Marks ” Bequest	7	1	8			
				176	18	11
, Excess Expenditure carried to General Account :—						
“ Penfold ” Bequest	7	15	1			
“ Julian Rogers ” Bequest	0	6	11			
				8	2	0

£5,837 10 1

J. B. NICHOLS AND SONS, LTD.,
PARLIAMENT MANSIONS,
VICTORIA STREET, WESTMINSTER.
